

APPENDICES

APPENDIX A - Bureau of Meteorology Climate Maps

APPENDIX B - Monitor Sensors Specification Sheets

APPENDIX C - Log of Sensor Problems and Data Gaps

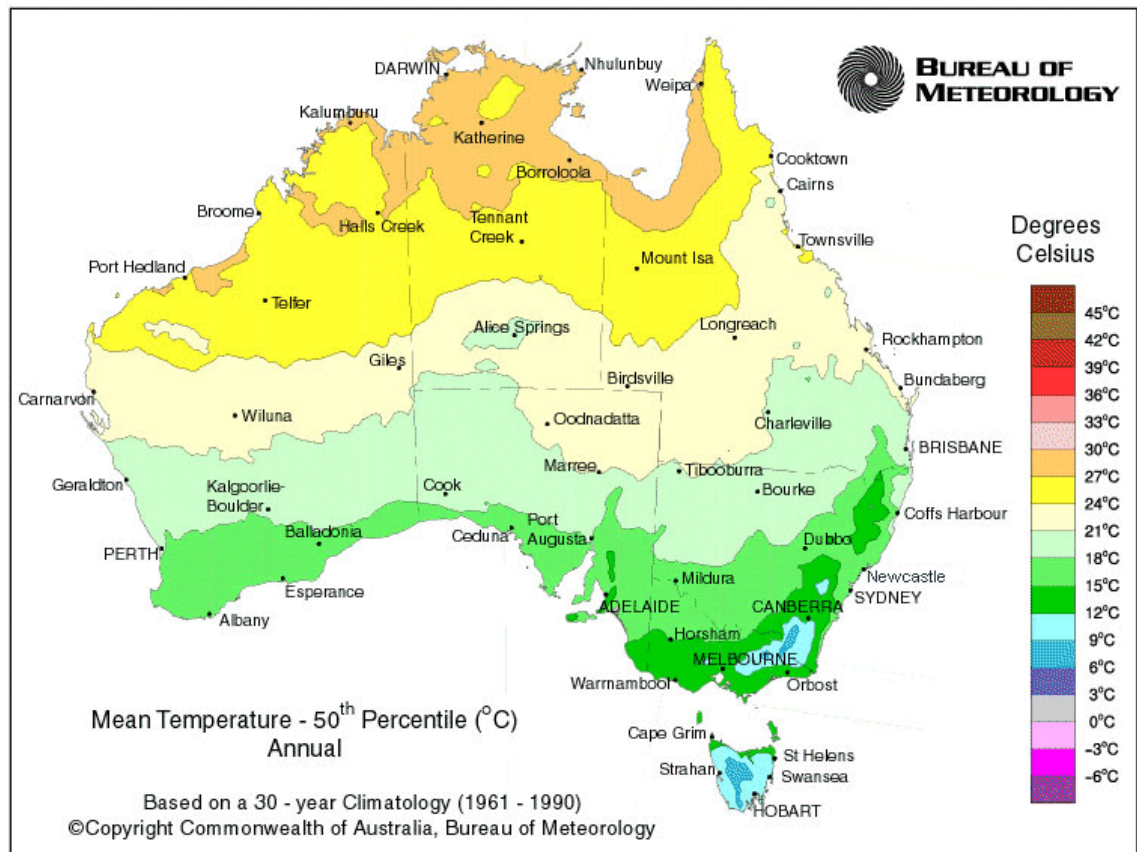
APPENDIX D - Section 4.1.5 from MLA Project FLOT.317

APPENDIX E - Project Data: Daily Maximum, Minimum and Averages

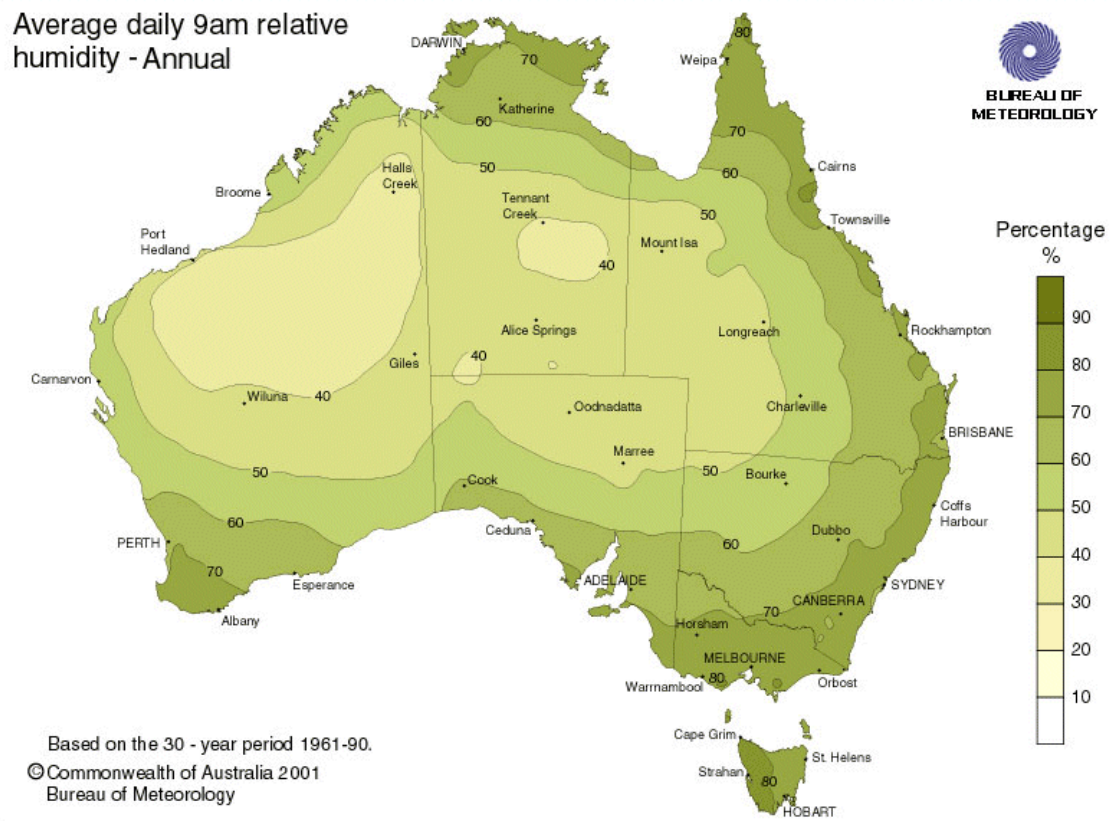
APPENDIX A

Bureau of Meteorology Climate Maps

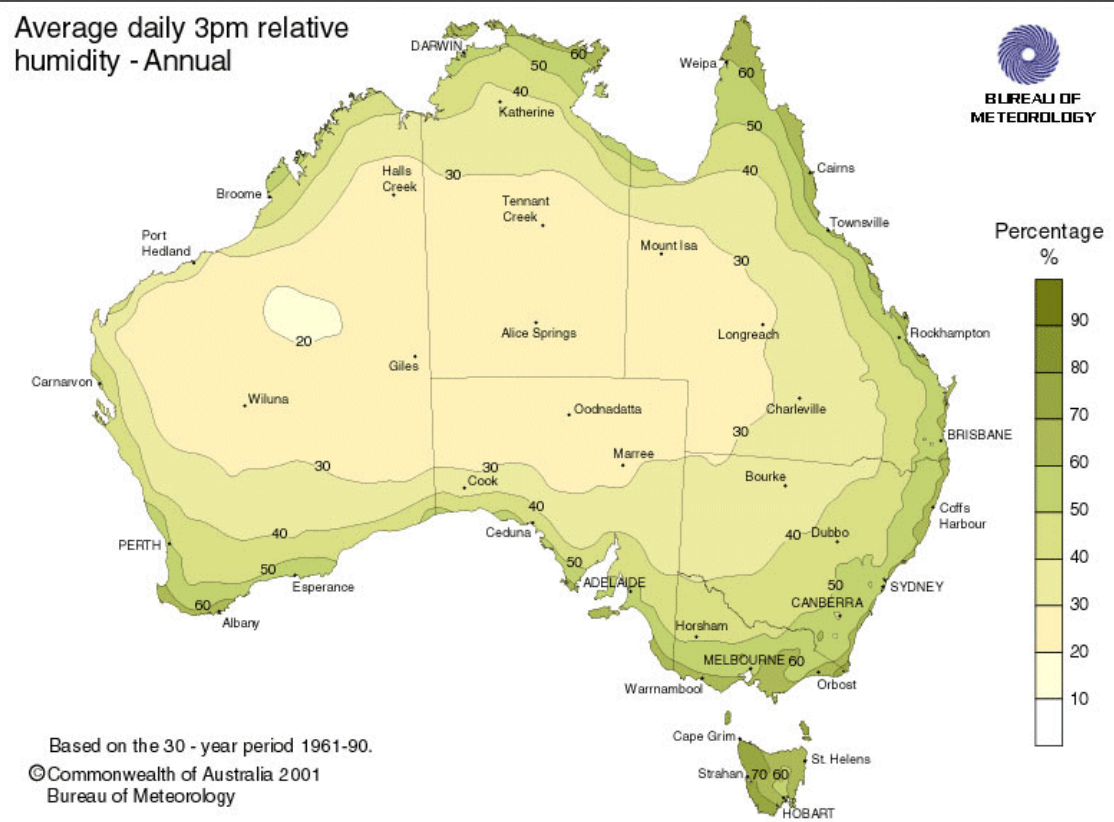
1. Mean Temperature - 50th Percentile (°C) - Annual
2. Average Daily 9am Relative Humidity - Annual
3. Average Daily 3pm Relative Humidity - Annual
4. Average Rainfall - Annual
5. Average Evaporation - Annual

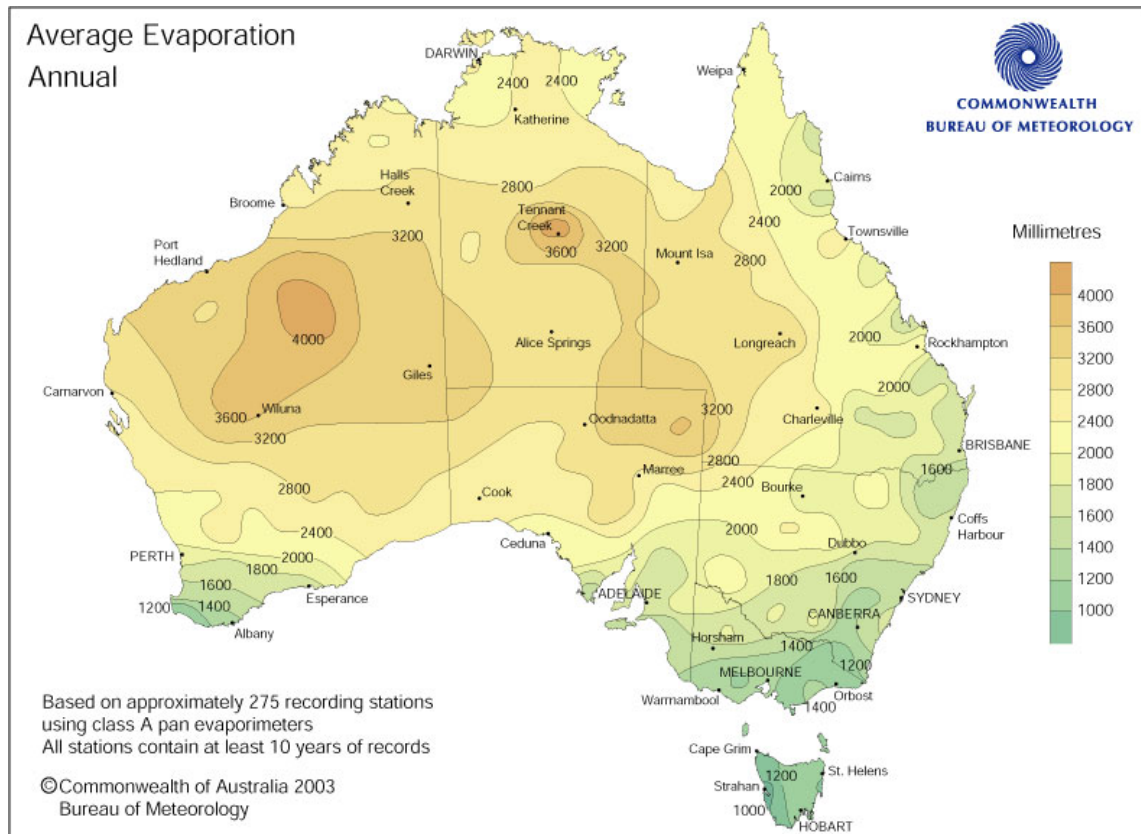
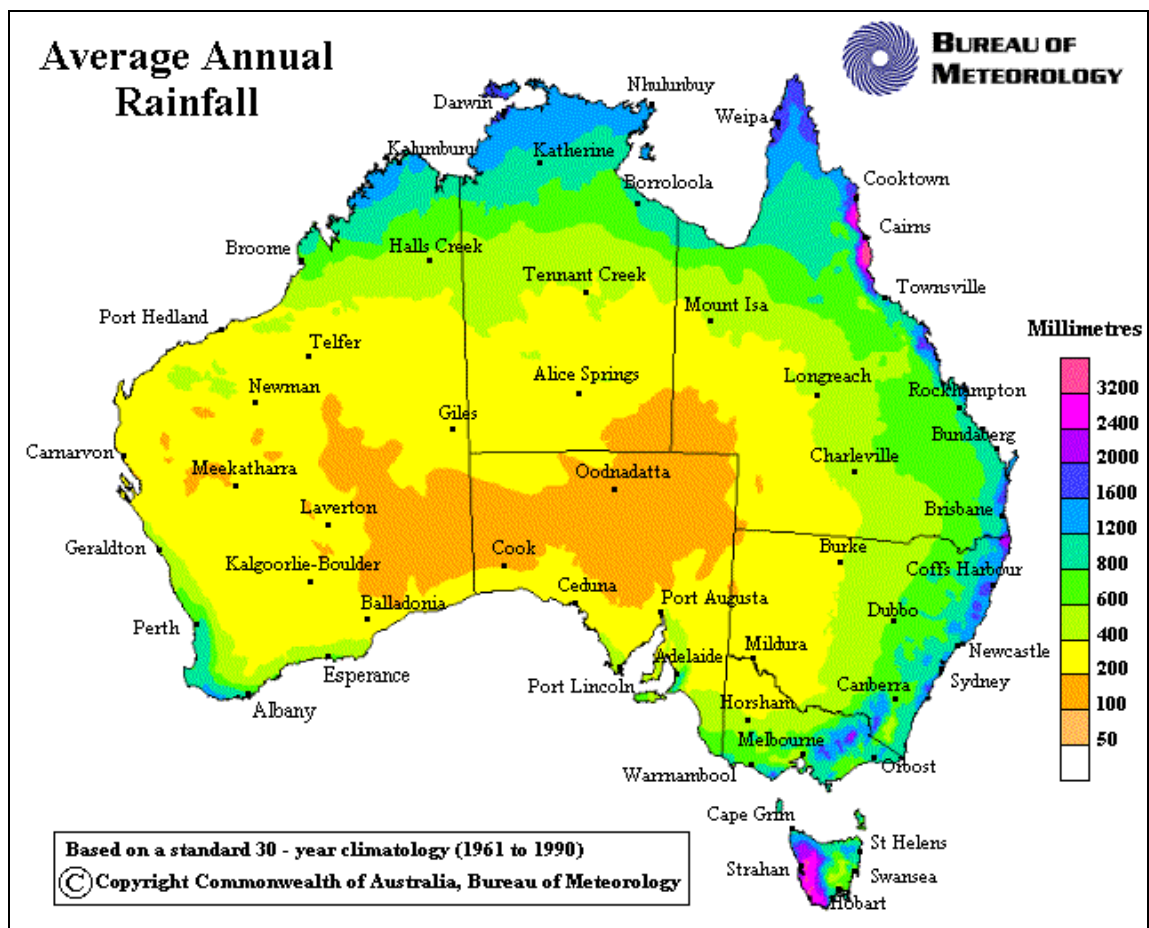


Average daily 9am relative humidity - Annual



Average daily 3pm relative humidity - Annual





APPENDIX B

Monitor Sensors Specification Sheets

1. Temperature Sensors
2. Relative Humidity Sensor
3. Anemometer (Wind Speed Sensor)
4. Wind Direction Sensor
5. Tipping Bucket Rain Gauge
6. Solar Radiation Sensors

μSMART SERIES

Temperature Sensors

with both Analog and Serial Data Interface - Monitor Sensors



Monitor Sensors manufacture a range of Temperature sensors for various environmental applications ranging from measurement of ambient conditions, crop temperature monitoring through to cattle comfort (heat stress) analysis.

The Air Temperature sensor TA1 uses a miniature diode connected transistor sensor mounted either at the end of a 4 mm diameter stainless steel tube projecting from the electronic sensor housing or on an extension cable for attachment to plants or tree canopies.

The sensing element is connected to a microprocessor controlled electronics package and provides an output in 0.01 deg C steps in low-resolution mode. A higher resolution providing steps of 0.002 deg C is available with appropriate sensors. Resolution depends on type of sensor and the span selected. (The above resolution figures are for standard configurations only).

Other non-standard sensor types such as thermocouples, RTDs and precision quartz sensors are available for high temperature, process and laboratory applications.

The internal microprocessor provides a host of features such as control and alarm outputs, 16-bit resolution (1 part in 65,000) and dual output signals. Each unit is provided with a multi-point calibration curve for maximum accuracy across the range.

With most other systems, changeover of a sensor means either recalibration of the system or resetting of parameters in the data logger or other data collection devices. The μSmart sensor eliminates this requirement as the on-board microprocessor ensures that all sensor types exhibit the same electronic specifications, and thus have identical performance characteristics.

Sensors have several output modes: *digital, voltage or current*.

Sensors are supplied with individual calibration certificates to enable software conversion to engineering units. In serial mode, the sensor reports in engineering units and the global algorithm is implemented internally.

Features and Applications

- Low power Consumption Atmospheric Pressure Monitoring
- Stainless Steel Housing Automatic Weather Stations
- Weatherproof Construction Meteorological
- Robust design Animal & Human Comfort
- Frequency, Voltage or Serial data output Horticulture & Agriculture
- 2 control/Alarm-output Laboratory - high accuracy
- Multiple Calibration points Temperature Measurement
- Independent/Stand-alone Operation Micro Climate Studies
- Customer configured alarm/Control Set-points Equipment Control

Air Temperature Sensor - Model TA1

The Air Temperature sensor measures ambient air temperature and is mounted in an upright position in a sensor shelter (Models: SS4/SS5) or a conventional Stevenson Screen.

Soil Temperature Sensor - Model TS1

Soil temperature sensors are identical to the model TA1 except for extra cable to allow the sensor to be buried in the soil at the required depth.

Black Globe Temperature Sensor - Model TB1

This temperature sensor monitors the effects of direct solar radiation on an exposed surface. The sensor is located inside a 160 mm diameter copper globe coated with a special matt black finish. This sensor is intended for use with ambient air temperature and relative humidity sensors to monitor animal and human comfort factors. The TB1 can also monitor the direct radiation on metal surfaces such as railway lines.

General Specifications:

Accuracy: +/- 0.1°C

Resolution: 0.01°C Low, 0.002°C High

Temperature Range: -20°C to +60°C (Custom ranges are available)

Humidity Range: 0-100%

Measurement Units: Degree Celsius/Degrees Fahrenheit (Software selectable)

Sensor Type: Surface mounted transistor (other options available)

Data Output: Serial data ASCII format (Monibus), plus, either

Voltage 0-1 volt, 0-2.5 or 0-4 volts OR

Frequency +5 volt pulse 2-10 Hz

4-20 ma Output option: add \$100+GST

Monibus is a 0 & 5V TTL level serial data output.

This can be converted easily to RS232 levels using either SI8 or SI9 interfaces.

The SI8 or SI9 can be built in to the sensor housing.

Power Supply: 5-28 v DC unregulated

Current Drain: <1.5 ma

Weight (unpacked): 230 grams (except for the TB1, which is <500 grams)

Dimensions: Length 225 mm Diameter 25 mm

Standard Cable Lengths: TA1 0.8 m TS1 4.0 m TG1 4.0 m

TL1 4.0 m TB1 4.0 m TW1 2.0 m

Associated Products:

SS4 & SS6 Sensor Shelters

SS1 Mini Sensor Shelter

TA1 Wet & Dry Temperature Sensor

AWS1 Automatic Weather Station

SI8 Interface module for RS232

SL(x) Data Logger various options Water Quality Station

Quality Assurance

Monitor Sensors' products are manufactured under a third party accredited ISO9002 System.



Relative Humidity Sensor HU1

The new μSmart series HU1 sensor utilises an Active polymer capacitor as a sensing element and provides reliable readings of Relative Humidity with minimum maintenance. The Di-electric constant of the element surface changes with the absorption of atmospheric moisture. The absorbed moisture causes a change in capacitance that is detected and converted to a Relative humidity reading.

The sensing element is connected to a fully temperature compensated microprocessor controlled electronics package, providing output in 0.01% Relative humidity steps under standard mode. The μprocessor provides a host of features such as control and alarm outputs, 16-bit resolution (1 part in 65,000) and software switchable output signals. Each unit is provided with a multi-point calibration curve for maximum accuracy across the range.

With most systems, changeover of a sensor means either recalibration of the system or resetting of parameters in the data logger or other data collection devices. The μSmart sensor eliminates the requirement as the on-board μprocessor ensures that all sensor types exhibit the same electronic specifications thus; have identical performance characteristics.

Sensors conform to a global algorithm in all output modes and for operation in digital, voltage or current mode, sensors are supplied with individual calibration certificates to enable software conversion to engineering units. In serial mode, the sensors report in engineering units and the global algorithm is implemented internally.

In conditions where relative humidity exceeds 90%, readings may vary significantly as relatively minor changes in temperature cause condensation on the sensor. Readings in excess of 100% may occur. Once moisture has evaporated from the surface of the sensor reliable measurements will quickly be established and "Recovery time" is usually less than one hour.

The HU1 Series has a robust design incorporating a stainless steel body. A sintered bronze filter is used for ease of maintenance and protects the sensor from insects and airborne debris.

Features

- Very low Maintenance
- Rapid Response
- Stainless steel body
- Robust Design
- High Speed Version Available
- Low Power Consumption

Applications

- Crop Studies
- Microclimate Studies
- Horticulture and Greenhouses
- Process Control
- Pest Management
- Animal and Human Comfort
- Agriculture and Forestry

Quality Assurance

Monitor Sensors products are manufactured under a third party accredited System ISO9002.

Specifications

Sensor Type:	Active Polymer Di-electric
Range:	0-100%
Hysteresis:	0.5%
Response Time:	2 seconds for 90% change
Accuracy:	+/-2% of reading over the range
Temperature Range:	-30°C to +80°C
Calibration Method:	Multi-point calibration with temperature compensation
Measurement Units:	Percentage (%) Relative Humidity
Resolution:	0.1% or 0.01% in high resolution
Dual Output:	Serial data ASCII format. Plus, either Voltage 0-1 volt or 0-2.5 volt, or Frequency +5 volt pulse 2-10 Hz
Power Supply:	5-28 v DC unregulated
Current Drain:	2 ma nominal
Weight (unpacked):	120 grams
Dimensions:	Overall length 165 mm Diameter 24 mm
Mounting:	Designed for mounting in Monitor Sensor Shelter (Model SS4/SS5). Airflow should not be obstructed.
Cable Details:	Standard product has 0.8 mtrs of cable. Longer cable lengths may be ordered
{Note: The HU1 sensor is not recommended for monitoring where relative humidity is continuously above 95%. A Wet and dry bulb measurement using an aspirated shelter should be substituted instead}.	
Associated Products:	AWS1 Automatic Weather Station SS4/SS5 Sensor Shelters SS6 Aspirated Sensor Shelter TA1 Air Temperature Sensor TA2 Wet and Dry Bulb Temperature Sensor

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μSMART SERIES

Anemometer **(Wind Speed Sensor)**



Model AN2 (Long Arm)

Model AN3 (Short Arm)

Model AN4 (AN2 with std. deviation output)

Model AN5 (AN3 with std. deviation output)

These digital sensors combine robust design with accuracy and low starting threshold for sensitivity in a wide range of operating conditions. They can be used to monitor wind speed, wind run and wind gust. The three conical aluminium anemometer cups have been developed to provide an approximately linear relationship between rotational speed and actual wind speed. An internal electronic "gear box" provides a digital change of state output as a measure of wind run. One pulse represents 10 metres of wind run. However special orders can be supplied for progressions from 0.625 to 160 metres of wind run per pulse.

The Anemometer is designed for use with the Monitor Sensors Data Logger, but can also be linked to a wide variety of electromechanical and electronic counters or other data loggers. The AN2 (longer arm) version is for applications where the emphasis is on sensitivity - it has a starting threshold of 0.1 metres per second. The AN3 (shorter arm) version is intended for use in areas where higher wind speeds prevail.

When used in conjunction with the SI1 μSmart interface board, the anemometer can offer all the features available on the μSmart range. The interface board also makes the unit compatible with the μSmart logger that offers automatic detection, set-up and logging when used with the μSmart series sensors. Interfaced with the SI1, the anemometer can provide dual signal outputs, alarm functions and/or control outputs, threshold settings plus a range of other features. With the AN4 and AN5 models, the sensor calculates the standard deviation over a preset period that can be set in the sensor. The standard deviation is then available as an independent output from the sensor and is available when used with either the μSmart Data logger or other analogue loggers. The μSmart general specification will provide an excellent overview of the capabilities of the series and should be read in conjunction with this sheet.

Features

Low Starting Threshold
Mounting Options Available
High Accuracy Relative to Cost
Corrosion-Resistant Finish
Low Friction Bearings for Long Life
Water Resistant Design
Monitoring
Excellent Dynamic Characteristics
Wind speed alarms
Awning/shutter controller

Applications

Meteorology
Wind Profiling
Evaporation Monitoring
Crop Studies and Agronomy
Emergency Service
Air Pollution and Plume
Building Construction Research

Quality Assurance

Monitor Sensors products are manufactured under a third party accredited ISO9002 System.

Specifications

Range:	Model AN2 - 0.2 to 40 metres/sec (3.6 to 150 k/h) Model AN3 - 0.5 to 50 metres/sec (7.2 to 200 k/h) Available in any wind speed unit of measurement.
Starting Threshold:	Model AN2 - 0.1 metres/second Model AN3 - 0.2 metres/second
Standard Output:	Model AN2 - 10 metres wind run/pulse Model AN3 - 10 metres wind run/pulse
Resolution:	0.001 m/s
Accuracy:	+/- 2 %
Temperature Range:	+1°C to +60°C (operating).
Humidity Range:	0-100%
Measurement Units:	Metres per second
Sensor Type:	Contactless inductive device.
Reliability: of	With proper maintenance, an operating lifetime in excess 1 billion revolutions is expected.
Output:	Serial data ASCII format. Plus, either Voltage 0-1 volt, 0-2.5, 0-4 volts or Frequency +5 volt pulse 2-10 Hz
Options:	4-20 ma Output RS232
Power Supply:	5-28 volts DC unregulated.
Current Drain:	<1 ma
Weight (unpacked):	Model AN2 - 225gm Model AN3 - 210gm
Dimensions:	Overall height including spigot: 195 mm Cup diameter: 65 mm Radius of arm: Model AN2 - 154 mm Radius of arm: Model AN3 - 91 mm
Mounting: arm	Designed to mount on Monitor Sensors standard cross (P/N MK9)
Cable Details:	Standard product has 150 mm of cable. Longer cable lengths may be ordered.

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Wind Direction Sensor

Model WD2 (Angle)

Model WD3 (Sine/Cosine)

Model WD4 (Angle/SigmaTheta)

The μSmart Wind Direction sensor overcomes the “deadband” problem associated with conventional potentiometer type wind direction sensors by utilising a design incorporating a continuous rotation type, microprocessor controlled sensor to provide an accurate angular reading of the wind direction. This type of sensor offers the dual advantage of eliminating ‘deadband’ errors and minimising friction within the sensor to give an extremely low starting threshold. The μSmart Wind Direction sensor does not require re-initialisation after power loss as the sensor can instantly identify bearing to an accuracy of better than ± 0.5 degrees.

The WD2 version provides a single output of angle for wind direction. The WD3 version provides dual outputs for sine and cosine of wind angle. Both sensors can provide a 24 hour standard deviation output which can be logged by the μSmart Data Logger. The WD4 displays angle information and computes the sigma theta directly in the sensor and can be logged in the Data Logger. This sensor can also provide average wind direction based a range of user selectable periods. These sensors can be used with any Data Logger and can also be linked to a wide variety of electromechanical and electronic counters.

The sensors offer the most capability when operated with a Monitor Sensors μSmart Data Logger. The μSmart wind direction sensor is also available as in the “Gold Line” series. The Gold Line general specification sheet should be read in conjunction with this document.

Features

- Low Starting Threshold
- Corrosion Resistant Finish
- 1 minute of arc resolution
- Sine/Cosine Output Option
- Long Life Operation
- No “Deadband” Problem
- Water Resistant Design

Applications

- Air Pollution/Plume monitoring
- Automatic Weather Stations
- Wind Profiling
- Crop Studies
- Emergency Services
- Ecology
- Building Construction Research

Quality Assurance

Monitor Sensors is an ISO 9002 quality endorsed company. License # 7224.

Specifications:

Operating Range:	0 to 40 metres/second (0 to 150 kph)	
Starting Threshold:	<0.2 metres/second	
Standard Output:	Model WD2	Wind direction angle (degrees)
	Model WD3	Sine of wind direction angle
		Cosine of wind direction angle
		24 hour standard deviation
	Model WD4	Angle and Sigma/Theta
[Note: Model WD3 and WD4 use two separate channels in the data logger.		
Resolution:	<1 minute of arc	
Accuracy:	<+/-0.5°	
Temperature Range:	+1°C to +60°C (operating) -30°C to +75°C (storage)	
Humidity Range:	0-100%	
Sensor Type:	Continuous rotation, microprocessor controlled position monitor.	
Reliability:	With proper maintenance, an operating lifetime in excess of 5 years is expected.	
Data Output:	Serial data ASCII format. Plus, either Voltage 0-1 volt, 0-2.5 volts, 0-4 volts, or Frequency +5 volt pulse 2-10 Hz	
Options:	4-20 ma Output RS232	
Power Supply :	5 to 28 volts DC unregulated	
Current Drain:	<2 mA	
Weight (unpacked):	350 grams	
Dimensions:	Overall height including spigot and vane 270 mm. Length tip to vane 450 mm.	
Mounting:	Designed to mount on Monitor Sensors standard cross arm (product code M10). Alternatively, a ½ inch BSP adaptor is available for fitting to a standard water pipe.	
Cable Details:	WD2 :	Standard product has 0.2 mtrs of cable. Longer cable lengths may be ordered - allow \$2.50/m for additional cable.
	WD3 :	Standard product has 0.2 mtrs of cable. Longer cable lengths may be ordered - allow \$6.00/m for additional cable.

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µSMART SERIES

TIPPING BUCKET RAIN GAUGE

Model RG2, RG5

(0.2 or 0.5 mm per tip)



These digital rain gauges provide reliable measurement of rainfall and intensity using the tipping bucket principle. The design includes several features to maintain accuracy of measurement, including a syphoning device which “smooths” the flow of water through the system thereby minimising errors associated with varying intensity of rainfall.

Rainfall is captured in the 203 mm diameter collector funnel and is directed through a delivery pipe to fill a divided tipping bucket device. The bucket is pivoted through its centre and has a preset calibration to tip for 0.2 or 0.5 mm of rainfall. When the bucket is “full” it pivots and empties - this action magnetically closes and opens a reed switch, sending a pulse signal to the data logger or electronic counter. Through this tipping “seesaw” action, the other side of the bucket is aligned to receive the flow from the delivery pipe. This recording and tipping cycle continues with rainfall. Fine stainless steel mesh prevents debris such as dirt and insects from entering the workings of the rain gauge.

The 0.5 mm calibration tip is recommended for most applications. The 0.2 mm version is used where low intensity of rainfall and/or sensitivity of measurement is important.

Features

- Corrosion Resistant Materials
- Robust Design
- Options for 0.2mm or 0.5 mm
- Can be upgraded to Pluviometer
- Simple Recalibration Procedure
- Low Power Consumption

Applications

- Catchment Measurement
- Flood Studies/Alerts
- Rainfall Intensity
- Meteorological Rainfall Monitoring
- Automatic Weather Stations
- Agriculture and Horticulture
- Hydrology
- Run-off monitoring
- First flush system diversion control in conjunction with the sentry controller.

Specifications

Range:	0 to 508 mm rainfall per hour
Switch Closure: circuitry	Two Reed Switches potted with contact cleaning
Calibration Tip Size:	Model RG (X) - 0.2 mm or 0.5 mm
Resolution:	Model RG (X) - 0.2 mm or 0.5 mm
Accuracy:	>127 mm/hr $\pm 2\%$ >254 mm/hr $\pm 3\%$
Temperature Range:	+1°C to +60°C (operating)
Humidity Range:	0-100%
Measurement Units:	Millimetres
Sensor Type:	Tipping Bucket mechanism
Reliability: excess	With proper maintenance, an operating lifetime in of 10 years is expected
Output:	µSmart version RG2, RG5: Monibus output (serial data 0-5V swing) Requires SI-8 or SI-9 to convert to RS232 (+/-10V swing)
Power Supply:	+4.5Volts to 7 Volts DC unregulated.
Current Drain:	>1 ma
Weight (unpacked):	2.3 Kg
Dimensions:	Overall height 325 mm Collector diameter 200 mm
Mounting:	Three pre-drilled mounting brackets are incorporated in the base of the rain gauge. These accommodate 9 mm diameter bolts. A level bubble is provided to allow the gauge to be levelled accurately.
Cable Lengths:	Standard product has 8 mtrs of cable. Longer cable lengths may be ordered - allow \$2.50/m for additional cable.

RAIN GAUGES WILL NOT BE DESPATCHED UNTIL THE REQUIRED RESOLUTION IS SPECIFIED i.e. 0.2 or 0.5 mm per tip

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μSMART SERIES

Solar Radiation Sensors

SR2 & PR1

The Monitor Sensors Solar Radiation Sensors have been designed to meet specific application needs.

The SR2 is a Solar Radiation shortwave (global) spectrum sensor with a spectral response from 400 to 950 nanometres. This is used to record sunshine hours or total incident solar energy.

The PR1 Photosynthetic Active Radiation (PAR) Sensor has a similar construction to the SR2 but with a spectral response range from 400 to 700 nanometres.

The PR2 measures light interception matching that of photosynthesis. This sensor can be used above or within a canopy or crop in daylight or under artificial lighting (glasshouses etc).

Through the use of a shaped Teflon diffuser, in which is housed the photovoltaic sensor, the sensors are able to correct for the changing angle of incidence as the sun moves across the sky.

The “cosine correction” follows the theoretical spectral curve to within 2%. Under clear daylight conditions, the SR2 sensor perform in close comparison to first class thermopile type pyrranometers, at substantially less cost.

With both sensors, the sensing element is connected to a μprocessor controlled electronics package, providing a host of features, such as control and alarm outputs, 16 bit resolution (1 part in 65,000) and software switchable dual output signals.

Each unit is provided with a multi-point calibration curve for maximum accuracy across the range.

With most systems, changeover of a sensor means either recalibration of the system or resetting of parameters in the data logger or other data collection devices.

The μSmart sensor eliminates this requirement as the on-board μprocessor ensures that all sensor types exhibit the same electronic specifications thus; have identical performance characteristics.

Sensors conform to a global algorithm in all output modes and for operation in digital, voltage or current mode, sensors are supplied with individual calibration certificates to enable software conversion to engineering units. In serial mode, the sensors report in engineering units and the global algorithm is implemented internally.

Features

- PAR and Global Response Versions
- Cosine Corrected (within 2%)
- Robust Design
- 2 Control/Alarm-output
- Stainless steel body

Applications

- Meteorology
- Agriculture and Horticulture
- Irrigation
- Solar Radiation Intensity
- Emergency Services
- Evaporation Calculation

Quality Assurance: Monitor Sensors products are manufactured under third party accredited System ISO9002.



Specifications

Range:	Model SR2: 0-2000 w/m ² Model PR1: 0 - 5 millimols/sec.
Cosine Correction:	Within 2% of theoretical spectral curve. Accuracy: +/- 5%
Temperature Range:	-20°C to +50°C
Humidity Range:	0% to 100%
Sensor Type:	Photovoltaic cell with shaped Teflon cap
Measurement Units:	Watts per m ²
Reliability:	With proper maintenance, an operating lifetime in excess of 5 years is expected.
Dual Output:	Serial data ASCII format. plus, either Voltage 0-1 volt OR Frequency +5 volt pulse 2-10 Hz
Output Options:	4-20 mA, 0-2.5V, 0-4V, RS232C
Power Supply:	5-28 V DC unregulated
Current Drain:	1 mA
Weight (unpacked):	180 grams
Dimensions:	Overall height including spigot 197 mm Diameter 25 mm
Mounting:	Designed to mount on Monitor Sensors standard cross arm (product code M10). Alternatively, a ½ inch BSP adaptor is available for fitment to a standard water pipe. Note: Sensor must be mounted vertically and free from shadow.
Cable Details:	Standard product has 0.2 mts of cable. Longer cable lengths may be ordered.
Associated Products:	AWS1 Automatic Weather Station AWS2 Farmers Weather Station TA1 Air Temperature Sensor RGx Tipping Bucket Rain Gauge SI8 or SI9 Interface module for RS232 SL1 to SL5 µSmart Logger

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APPENDIX C

Log of Sensor Problems and Data Gaps

	<i>Site</i>	<i>Date Commenced</i>	<i>Station(s)</i>	<i>Problem</i>	<i>Date Remedied</i>
Air Temperature	Feedlot A	02 Jan, 2001	A1 - East	Sporadic data until 10/1/01 then sensor drops out.	11 Jan, 2001
		14 Jan, 2001	A6 - Unshaded	Sensor drops out for 24 hours.	15 Jan, 2001
		07 Feb, 2001	A1 - East	Sensor drops out.	19 Feb, 2001
	Feedlot B	09 Jan, 2001	B2 - South	Sensor drops out.	22 Feb, 2001
		09 Jan, 2001	B4 - North	Sensor defaulted to collecting 9am and 3pm reading only.	18 Jan, 2001
		08 Feb, 2001	B3 - West	Sensor drops out.	22 Feb, 2001
		10 Mar, 2001	B2 - South	Sensor drops out.	22 Mar, 2001
		26 Mar, 2001	B2 - South	Sensor drops out intermittently.	Not used.
		28 Mar, 2001	B1 - East	Sensor drops out for 9 hours.	28 Mar, 2001
Black Globe Temperature	Feedlot A	02 Jan, 2001	A1, A2, A3, A4	No sensor installed.	15 Jan, 2001
		02 Jan, 2001	A5 - Shaded	No sensor installed.	15 Jan, 2001
		02 Jan, 2001	A6 - Unshaded	No sensor installed.	15 Jan, 2001
		07 Feb, 2001	A1 - East	Sensor drops out.	19 Feb, 2001
	Feedlot B	09 Jan, 2001	B1, B2, B3, B4	No sensor installed.	18 Jan, 2001
		09 Jan, 2001	B6 - Unshaded	No sensor installed.	19 Jan, 2001
		08 Feb, 2001	B3 - West	Sensor drops out.	22 Feb, 2001
		01 Mar, 2001	B6 - Unshaded	Sensor drops out for 7 hours.	01 Mar, 2001
		10 Mar, 2001	B2 - South	Sensor drops out.	22 Mar, 2001
		26 Mar, 2001	B2 - South	Sensor drops out intermittently.	Not used.
		28 Mar, 2001	B1 - East	Sensor drops out for 9 hours.	28 Mar, 2001
Ground Temperature	Feedlot A	02 Jan, 2001	A1 - East	Sporadic data until 7/2/01 then sensor drops out.	19 Feb, 2001
		14 Jan, 2001	A6 - Unshaded	Sensor drops out for 24 hours.	15 Jan, 2001
		20 Feb, 2001	A1 - East	Sporadic data.	Not used.
	Feedlot B	09 Jan, 2001	B2 - South	No sensor installed.	18 Jan, 2001
		09 Jan, 2001	B4 - North	Sensor defaulted to collecting 9am and 3pm reading only.	18 Jan, 2001
		19 Jan, 2001	B6 - Unshaded	Sensor drops out.	22 Feb, 2001
		08 Feb, 2001	B3 - West	Sensor drops out.	22 Feb, 2001
		10 Mar, 2001	B2 - South	Sensor drops out.	22 Mar, 2001
		26 Mar, 2001	B2 - South	Sensor drops out intermittently.	Not used.
		28 Mar, 2001	B1 - East	Sensor drops out for 9 hours.	28 Mar, 2001
Humidity	Feedlot A	02 Jan, 2001	A1 - East	Sporadic data until 7/2/01 then sensor drops out.	20 Feb, 2001
		14 Jan, 2001	A6 - Unshaded	Sensor drops out for 24 hours.	15 Jan, 2001
		15 Feb, 2001	A4 - North	Sensor drops out.	20 Feb, 2001
	Feedlot B	20 Mar, 2001	A4 - North	Sensor drops out for 13 hours.	20 Mar, 2001
		09 Jan, 2001	B2 - South	Sensor drops out.	18 Jan, 2001
		09 Jan, 2001	B4 - North	Sensor defaulted to collecting 9am and 3pm reading only.	18 Jan, 2001
		08 Feb, 2001	B3 - West	Sensor drops out.	22 Feb, 2001
		10 Mar, 2001	B2 - South	Sensor drops out.	22 Mar, 2001
		26 Mar, 2001	B2 - South	Sensor drops out intermittently.	Not used.
		28 Mar, 2001	B1 - East	Sensor drops out for 9 hours.	28 Mar, 2001

	<i>Site</i>	<i>Date Commenced</i>	<i>Station(s)</i>	<i>Problem</i>	<i>Date Remedied</i>
Wind Direction	Feedlot A	02 Jan, 2001	A1 - East	Sporadic data until 7/2/01 then sensor drops out.	20 Feb, 2001
		02 Jan, 2001	A2 - South	Sensor misaligned by approx. 90°.	19 Mar, 2001
		14 Jan, 2001	A6 - Unshaded	Sensor drops out for 24 hours.	15 Jan, 2001
		15 Feb, 2001	A4 - North	Sensor drops out.	18 Feb, 2001
		19 Mar, 2001	A2 - South	Sensor misaligned by approx. 20-30°.	31 Mar, 2001
	Feedlot B	09 Jan, 2001	B2 - South	No sensor installed.	18 Jan, 2001
		09 Jan, 2001	B5 - Shaded	No sensor installed.	18 Jan, 2001
		18 Jan, 2001	B2 - South	Sporadic data until 10/3/01 then sensor drops out.	22 Mar, 2001
		08 Feb, 2001	B3 - West	Sensor drops out.	22 Feb, 2001
		10 Mar, 2001	B2 - South	Sensor drops out.	22 Mar, 2001
		26 Mar, 2001	B2 - South	Sensor drops out.	30 Mar, 2001
		28 Mar, 2001	B1 - East	Sensor drops out for 9 hours.	28 Mar, 2001
2m Wind Speed	Feedlot A	02 Jan, 2001	A1 - East	No sensor installed.	15 Jan, 2001
		02 Jan, 2001	A4 - North	No sensor installed.	15 Jan, 2001
		14 Jan, 2001	A6 - Unshaded	Sensor drops out for 24 hours.	15 Jan, 2001
		15 Jan, 2001	A1 - East	Sporadic data until 1/2/01 then sensor drops out.	20 Feb, 2001
		15 Feb, 2001	A4 - North	Sensor drops out.	18 Feb, 2001
		20 Mar, 2001	A4 - North	Sensor drops out for 13 hours.	20 Mar, 2001
	Feedlot B	09 Jan, 2001	B2 - South	No sensor installed.	18 Jan, 2001
		09 Jan, 2001	B3 - West	Sensor not functioning.	22 Feb, 2001
		10 Mar, 2001	B2 - South	Sensor drops out.	22 Mar, 2001
		26 Mar, 2001	B2 - South	Sensor drops out.	30 Mar, 2001
		28 Mar, 2001	B1 - East	Sensor drops out for 9 hours.	28 Mar, 2001
10m Wind Speed	Feedlot A	02 Jan, 2001	A1 - East	Sporadic and missing data.	Not used.
		14 Jan, 2001	A6 - Unshaded	Sensor drops out for 24 hours.	15 Jan, 2001
	Feedlot B	09 Jan, 2001	B2 - South	Sensor not functioning.	18 Jan, 2001
		09 Jan, 2001	B3 - West	Sensor not functioning.	08 Mar, 2001
		19 Jan, 2001	B6 - Unshaded	Sensor drops out.	07 Feb, 2001
		10 Mar, 2001	B2 - South	Sensor drops out.	22 Mar, 2001
		26 Mar, 2001	B2 - South	Sensor drops out.	30 Mar, 2001
		28 Mar, 2001	B1 - East	Sensor drops out for 9 hours.	28 Mar, 2001

	<i>Site</i>	<i>Date Commenced</i>	<i>Station(s)</i>	<i>Problem</i>	<i>Date Remedied</i>
Solar Radiation (Incoming)	Feedlot A	02 Jan, 2001	A4 - North	No sensor installed.	15 Jan, 2001
		02 Jan, 2001	A5 - Shaded	No sensor installed.	15 Jan, 2001
		02 Jan, 2001	A6 - Unshaded	No sensor installed.	15 Jan, 2001
		07 Feb, 2001	A1 - East	Sensor drops out.	20 Feb, 2001
	Feedlot B	07 Feb, 2001	B6 - Unshaded	Sensor drops out for 10 hours.	08 Feb, 2001
		28 Mar, 2001	B1 - East	Sensor drops out for 9 hours.	28 Mar, 2001
Solar Radiation (Outgoing)	Feedlot A	02 Jan, 2001	A4 - North	No sensor installed.	15 Jan, 2001
		02 Jan, 2001	A5 - Shaded	No sensor installed.	15 Jan, 2001
		02 Jan, 2001	A6 - Unshaded	No sensor installed.	16 Jan, 2001
		07 Feb, 2001	A1 - East	Sensor drops out.	20 Feb, 2001
		15 Feb, 2001	A4 - North	Sensor drops out.	18 Feb, 2001
	Feedlot B	28 Mar, 2001	B1 - East	Sensor drops out for 9 hours.	28 Mar, 2001
		07 Feb, 2001	B6 - Unshaded	Sensor drops out for 10 hours.	08 Feb, 2001

APPENDIX D

Section 4.1.5 from MLA Project FLOT.317

‘Measuring the Microclimate of
Eastern Australian Feedlots’

R. Petrov, S. Lott, P. Binns, R. Cork, & C. MacFarlane (2002)

4.1.5 Black Globe Temperature

Black globe temperature is an integrated measure of radiant heating. It is best described as a combined measure of temperature and the heat effects of solar radiation (or radiant heat load). Black globe temperature readings are strongly influenced by solar radiation and as expected the measurements undertaken during the study show that the black globe temperatures were lower in the shaded pens compared to the unshaded pens and external feedlot environment.

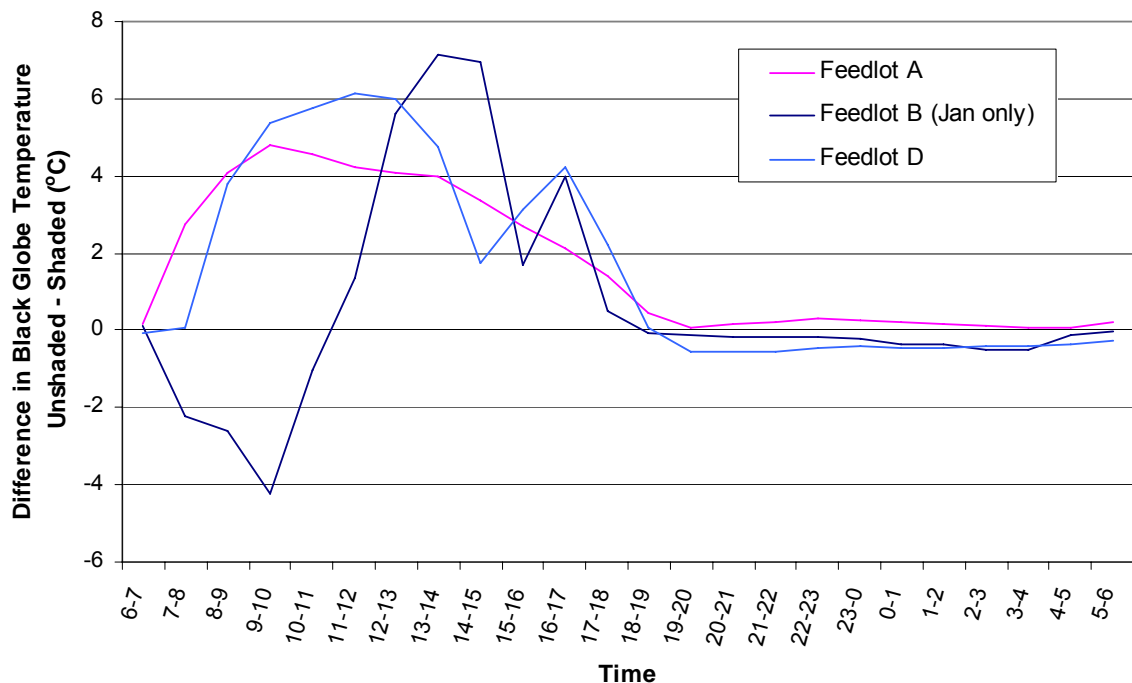


Figure 18. Average hourly differences in black globe temperature between the unshaded and shaded stations at three feedlot sites.

The average hourly comparison data presented in Figure 18 above clearly shows that radiant heat contributed by solar radiation significantly increases black globe readings in the unshaded pen during the daylight hours to temperatures well over those recorded in the shaded pen. However, as is expected, during the night when solar radiation levels are zero, there is little to no difference between the black globe temperature and the black globe temperatures recorded in the unshaded and shaded pen.

While black globe temperature is a useful parameter in the assessment of cattle heat stress, most standard climatic stations do not always record it. Air temperature and solar radiation are more commonly recorded. Therefore as part of the study, the relationship between black globe temperature, air temperature, and solar radiation was examined. The purpose of this was to investigate whether it is possible to develop a predictive equation for black globe temperature using recorded air temperature and solar radiation values.

Using data collected from the external stations at the four feedlot sites, regression analyses were undertaken using the parameters black globe temperature, air temperature, and solar radiation. This enabled various predictive equations of black globe temperature to be examined using the input climatic variables of air temperature and solar radiation.

The most accurate predictive equation for black globe temperature is described below:

$$T_{BG} = X_1\sqrt{T_A} + X_2T_A + X_3(\log(SR+1)) + b \quad (1)$$

where T_{BG} = Black Globe Temperature (°C)

T_A = Air Temperature (°C)

SR = Solar Radiation (W/m²)

$X_{1,2,3}$ = X Variables

b = Intercept

Multivariate regression analyses were undertaken in order to determine the X variables for each site. The results of this analyses is presented in Table 29 below.

Table 29. External station 'X Variables' for the predictive Black Globe equation.

	Feedlot A	Feedlot B	Feedlot C	Feedlot D	Average
Intercept	-6.47	2.24	-0.73	10.07	1.28
X Variable 1	-1.03	-4.08	-1.23	-5.87	-3.05
X Variable 2	1.27	1.65	1.22	1.78	1.48
X Variable 3	4.38	3.57	3.37	2.76	3.52

Based on the above coefficients derived from the external station at the four feedlot sites a general predictive equation for black globe temperature would be:

$$T_{BG} = 1.48T_A - 3.05\sqrt{T_A} + 3.52(\log (SR+1)) + b$$

where T_{BG} = Black Globe Temperature (°C)

T_A = Air Temperature (°C)

SR = Solar Radiation (W/m2)

b = Intercept

It is noted that significant variability occurred in the intercept values between the feedlot sites. This variable should be in the range of -5 to 10. The higher the intercept value the more conservative the equation, with higher black globe values predicted.

Data analysis was also undertaken to examine the relationship between air temperature and solar radiation values measured outside the feedlot with black globe temperatures recorded within the feedlot pens. The analyses undertaken has shown that it is possible to use data collected from outside the feedlot area to predict black globe temperatures within the feedlot pens with some accuracy.

Using the external station values for air temperature and solar in equation (1) and black globe temperatures recorded in the feedlot pens as 'y' values, regression analyses has allowed the site specific X variables for each feedlot to be determined. The results of these analyses are presented in Table 30 and Table 31 for the unshaded and shaded pen respectively.

Table 30. Unshaded pen 'X Variables' for the predictive Black Globe equation using external data.

	Feedlot A	Feedlot B	Feedlot C	Feedlot D	Average
Intercept	-3.25	18.10	-7.15	6.31	3.50
X Variable 1	-0.26	-10.60	2.83	-2.56	-2.65
X Variable 2	1.05	2.36	0.65	1.26	1.33
X Variable 3	4.00	2.91	3.37	2.55	3.21

Table 31. Shaded pen 'X Variables' for the predictive Black Globe equation using external data.

	Feedlot A	Feedlot B	Feedlot D	Average
Intercept	14.10	-7.43	9.10	5.26
X Variable 1	-6.47	2.20	-3.05	-2.44
X Variable 2	1.64	0.72	1.26	1.21
X Variable 3	2.18	4.13	0.97	2.43

Substituting the variables derived in the above tables into the predictive black globe equation (1) allows external air temperature and solar radiation data to be used to calculate the black globe temperature within both the unshaded and shaded pen. Plots of calculated black globe temperature (using air temperature and solar radiation values recorded by external stations) against actual black globe temperatures are presented in Figure 19 for the unshaded pen at Feedlot B and Figure 20 for the shaded pen at Feedlot D.

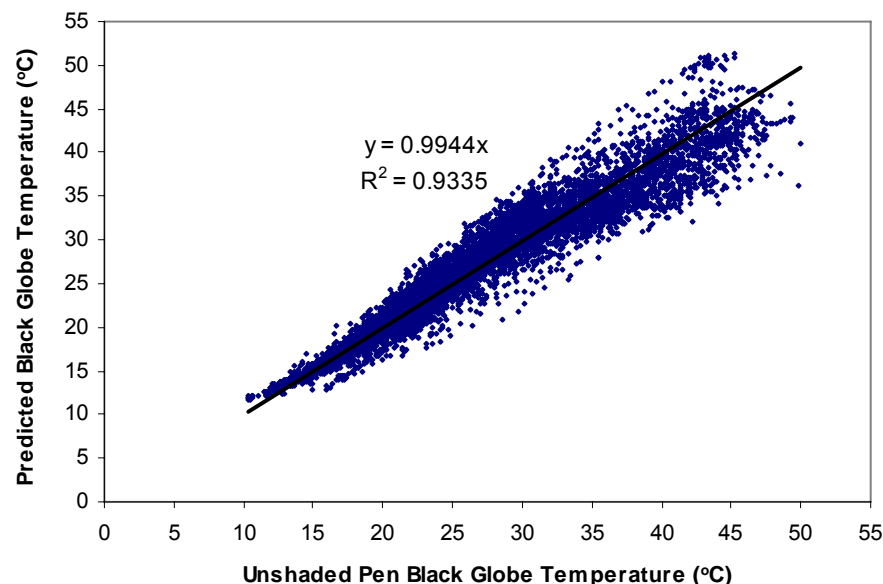


Figure 19. Predicted black globe temperatures for the Feedlot B unshaded pen derived using external data in comparison with actual black globe temperatures (n = 9,388).

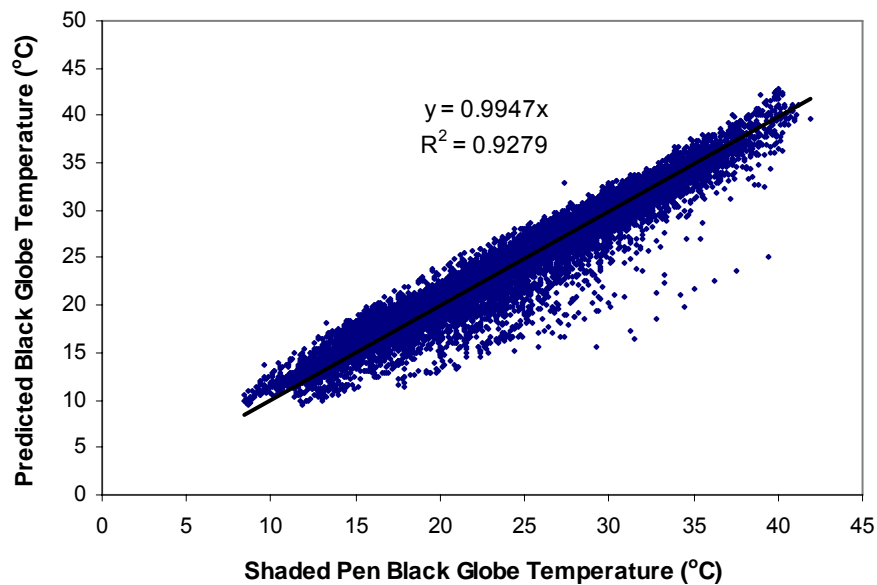


Figure 20. Predicted black globe temperatures for the Feedlot D shaded pen derived using external data in comparison with actual black globe temperatures (n = 12,876).

It is noted that the calculated black globe temperatures presented in Figure 19 and Figure 20 were derived using the site specific X variables presented in Table 30 and Table 31 above. It is possible to use the average X variable values presented in these tables, however it should be noted that the variance between sites results in the predicted black globe temperatures for both the unshaded and shaded pens being somewhat conservative.

This is shown when using the following general equations for predicting black globe temperatures in both the unshaded and shaded pen.

$$T_{BG \text{ (unshaded)}} = 1.33T_A - 2.65\sqrt{T_A} + 3.21(\log(SR+1)) + 3.50$$

$$T_{BG \text{ (shaded)}} = 1.21T_A - 2.44\sqrt{T_A} + 2.43(\log(SR+1)) + 5.26$$

where T_{BG} = Predicted Black Globe Temperature (°C)

T_A = Air Temperature recorded by external station (°C)

SR = Solar Radiation recorded by external station (W/m^2)

The general equations above were used to calculate the predicted black globe temperatures for the unshaded and shaded pens at each site. Plots of calculated black globe temperatures against actual recorded values were made and lines of best fit were applied. This allowed the accuracy of the equations to be determined. This data in Table 32 below presents the equations for the line of best fit derived from these plots.

Table 32. Lines of best fit derived from predicted versus actual black globe plots.

	Unshaded Pen			Shaded Pen		
	a	b	R ² Value	a	B	R ² Value
Feedlot A	0.89	3.57	0.94	0.92	2.74	0.91
Feedlot B	0.84	4.29	0.93	0.79	4.53	0.90
Feedlot C	0.90	2.36	0.94	-	-	-
Feedlot D	1.03	-1.67	0.92	1.12	-3.01	0.90

Line of best fit: $y = ax + b$
 where y = predicted BG,
 x = actual BG.

The above data show that, with the exception of Feedlot D ($a > 1$), the predicted black globe values at the Feedlot sites were generally slightly lower than the actual recorded values ($a < 1$). Therefore while it has been possible to predict the black globe temperatures within the feedlot pens (both unshaded and shaded) with a relatively high degree of accuracy, care must be taken as high black globe temperatures may be underestimated. This may reduce the likelihood of predicting extreme stress events using a modelled value of black globe temperature.

APPENDIX E

Project Data: Daily Maximum, Minimum and Averages

1. Feedlot A
 - Air Temperature
 - Black Globe Temperature
 - Ground Temperature
 - Humidity
 - Wind Direction
 - 2 metre Wind Speed
 - 10 metre Wind Speed
 - Solar Radiation (Incoming)
 - Solar Radiation (Outgoing)
2. Feedlot B
 - Air Temperature
 - Black Globe Temperature
 - Ground Temperature
 - Humidity
 - Wind Direction
 - 2 metre Wind Speed
 - 10 metre Wind Speed
 - Solar Radiation (Incoming)
 - Solar Radiation (Outgoing)

Air Temperature - Daily Maximum, Minimum and Averages

Feedlot A

Date	Feedlot A External			Shaded Pen (A5)			Unshaded Pen (A6)		
	Max (°C)	Min (°C)	Ave (°C)	Max (°C)	Min (°C)	Ave (°C)	Max (°C)	Min (°C)	Ave (°C)
1-Jan-01	23.580	16.744	20.075	26.720	15.592	21.294	23.580	16.744	20.075
2-Jan-01	26.456	15.570	21.129	28.556	14.364	21.446	26.456	15.570	21.129
3-Jan-01	27.772	14.368	21.205	28.846	14.046	21.924	27.772	14.368	21.205
4-Jan-01	28.448	13.484	21.769	29.718	14.630	22.563	28.448	13.484	21.769
5-Jan-01	29.512	14.682	22.185	30.434	15.362	23.069	29.512	14.682	22.185
6-Jan-01	29.726	15.338	22.730	30.450	15.428	23.482	29.726	15.338	22.730
7-Jan-01	30.118	15.680	23.155	32.024	17.434	24.246	30.118	15.680	23.155
8-Jan-01	31.534	17.228	23.906	31.134	19.118	24.082	31.534	17.228	23.906
9-Jan-01	30.450	19.136	23.771	28.290	18.158	22.853	30.450	19.136	23.771
10-Jan-01	28.138	18.146	22.614	30.264	17.468	23.481	28.138	18.146	22.614
11-Jan-01	29.516	17.362	23.202	31.842	16.998	24.754	29.516	17.362	23.202
12-Jan-01	31.648	17.124	24.510	34.720	18.920	26.956	31.648	17.124	24.510
13-Jan-01	34.440	18.740	26.725	35.720	20.008	27.826	34.440	18.740	26.725
14-Jan-01	34.808	19.922	27.380	35.454	20.362	27.787	34.808	19.922	27.380
15-Jan-01	35.242	20.318	27.564	29.750	26.038	28.025	35.242	20.318	27.564
16-Jan-01	34.250	20.310	26.974	35.436	20.344	27.288	34.250	20.310	26.974
17-Jan-01	33.820	22.154	26.176	34.444	22.262	26.368	33.820	22.154	26.176
18-Jan-01	31.682	19.988	24.614	32.074	20.152	24.977	31.682	19.988	24.614
19-Jan-01	28.078	16.908	22.155	28.964	16.836	22.434	28.078	16.908	22.155
20-Jan-01	29.730	16.312	22.799	29.840	16.292	23.067	29.730	16.312	22.799
21-Jan-01	30.624	19.388	24.296	30.752	19.372	24.490	30.624	19.388	24.296
22-Jan-01	32.534	19.576	26.006	32.924	19.602	26.262	32.534	19.576	26.006
23-Jan-01	33.480	20.814	26.465	33.262	20.922	26.724	33.480	20.814	26.465
24-Jan-01	32.614	18.950	25.230	33.042	18.884	25.384	32.614	18.950	25.230
25-Jan-01	30.868	17.926	24.927	31.452	17.848	25.174	30.868	17.926	24.927
26-Jan-01	34.998	20.060	27.629	35.436	20.158	27.805	34.998	20.060	27.629
27-Jan-01	38.694	23.364	30.080	38.546	23.432	30.244	38.694	23.364	30.080
28-Jan-01	33.598	20.608	26.113	34.350	20.708	26.337	33.598	20.608	26.113
29-Jan-01	31.126	22.908	26.434	31.400	23.092	26.612	31.126	22.908	26.434
30-Jan-01	30.454	21.014	25.213	30.848	20.978	25.319	30.454	21.014	25.213
31-Jan-01	27.684	19.452	23.373	27.934	19.740	23.581	27.684	19.452	23.373
1-Feb-01	25.670	19.348	21.565	25.554	19.498	21.745	25.670	19.348	21.565
2-Feb-01	24.732	19.134	21.959	24.984	19.212	22.098	24.732	19.134	21.959
3-Feb-01	27.362	20.590	23.235	27.676	20.638	23.445	27.362	20.590	23.235
4-Feb-01	28.104	19.494	23.790	28.892	19.696	24.075	28.104	19.494	23.790
5-Feb-01	28.138	17.770	22.705	28.734	17.654	22.780	28.138	17.770	22.705
6-Feb-01	27.802	17.162	22.265	28.052	17.094	22.538	27.802	17.162	22.265
7-Feb-01	26.934	18.790	22.335	28.078	18.454	22.513	26.934	18.790	22.335
8-Feb-01	26.056	18.128	21.716	26.354	17.964	21.950	26.056	18.128	21.716
9-Feb-01	27.132	17.980	22.164	28.066	17.874	22.450	27.132	17.980	22.164
10-Feb-01	29.030	16.118	22.612	30.426	16.164	22.908	29.030	16.118	22.612
11-Feb-01	29.878	17.404	23.712	30.438	17.210	24.053	29.878	17.404	23.712
12-Feb-01	29.390	17.850	23.336	30.560	17.758	23.628	29.390	17.850	23.336
13-Feb-01	29.992	17.318	23.636	30.804	16.932	23.822	29.992	17.318	23.636
14-Feb-01	30.212	17.730	23.720	30.576	17.630	23.895	30.212	17.730	23.720
15-Feb-01	30.884	17.956	24.398	31.814	17.770	24.569	30.884	17.956	24.398

Air Temperature - Daily Maximum, Minimum and Averages Feedlot A (cont.)

Date	Feedlot A External			Shaded Pen (A5)			Unshaded Pen (A6)		
	Max (°C)	Min (°C)	Ave (°C)	Max (°C)	Min (°C)	Ave (°C)	Max (°C)	Min (°C)	Ave (°C)
16-Feb-01	26.246	18.098	21.947	26.776	18.188	22.164	26.246	18.098	21.947
17-Feb-01	27.060	15.674	21.047	27.396	15.696	21.205	27.060	15.674	21.047
18-Feb-01	25.584	14.612	19.724	25.516	14.442	19.793	25.584	14.612	19.724
19-Feb-01	27.206	13.222	20.564	28.056	12.958	20.905	27.206	13.222	20.564
20-Feb-01	28.044	14.204	21.355	28.230	14.016	21.541	28.044	14.204	21.355
21-Feb-01	28.346	16.248	22.631	29.136	16.378	22.709	28.346	16.248	22.631
22-Feb-01	32.004	16.644	24.459	32.780	16.224	24.753	32.004	16.644	24.459
23-Feb-01	31.188	18.342	24.472	31.942	18.106	24.776	31.188	18.342	24.472
24-Feb-01	32.754	17.664	25.286	34.214	17.478	25.600	32.754	17.664	25.286
25-Feb-01	33.202	18.112	25.300	34.138	18.004	25.672	33.202	18.112	25.300
26-Feb-01	33.924	15.760	25.482	34.768	16.280	25.772	33.924	15.760	25.482
27-Feb-01	36.098	17.934	27.268	36.624	18.222	27.630	36.098	17.934	27.268
28-Feb-01	32.970	20.626	26.075	33.928	20.658	26.412	32.970	20.626	26.075
1-Mar-01	32.632	19.030	25.641	33.876	19.100	25.978	32.632	19.030	25.641
2-Mar-01	30.168	20.242	24.657	30.954	20.216	24.876	30.168	20.242	24.657
3-Mar-01	26.424	19.058	22.471	26.894	18.972	22.732	26.424	19.058	22.471
4-Mar-01	28.824	14.534	21.480	29.278	14.702	21.798	28.824	14.534	21.480
5-Mar-01	29.102	12.914	21.529	29.692	13.112	21.805	29.102	12.914	21.529
6-Mar-01	27.156	17.454	22.693	27.596	17.834	22.949	27.156	17.454	22.693
7-Mar-01	29.532	15.004	22.564	30.114	15.442	22.803	29.532	15.004	22.564
8-Mar-01	29.512	17.632	23.554	30.430	17.704	23.790	29.512	17.632	23.554
9-Mar-01	26.116	20.408	22.896	26.308	20.858	23.208	26.116	20.408	22.896
10-Mar-01	31.142	19.264	24.027	31.578	19.224	24.202	31.142	19.264	24.027
11-Mar-01	31.042	19.402	23.393	30.700	19.644	23.528	31.042	19.402	23.393
12-Mar-01	31.026	20.398	24.352	31.370	20.488	24.605	31.026	20.398	24.352
13-Mar-01	30.950	18.560	24.031	31.756	18.856	24.410	30.950	18.560	24.031
14-Mar-01	28.484	19.114	23.079	29.132	19.208	23.373	28.484	19.114	23.079
15-Mar-01	26.972	16.060	21.290	27.526	16.046	21.599	26.972	16.060	21.290
16-Mar-01	27.522	14.456	21.104	28.260	14.668	21.389	27.522	14.456	21.104
17-Mar-01	30.592	17.896	24.094	31.156	17.936	24.279	30.592	17.896	24.094
18-Mar-01	31.314	18.828	24.658	31.042	19.086	24.807	31.314	18.828	24.658
19-Mar-01	31.090	14.298	23.234	31.892	14.474	23.494	31.090	14.298	23.234
20-Mar-01	30.470	18.590	24.296	30.624	18.566	24.431	30.470	18.590	24.296
21-Mar-01	27.798	18.542	21.986	28.380	18.660	22.191	27.798	18.542	21.986
22-Mar-01	26.954	16.608	22.470	27.134	16.846	22.630	26.954	16.608	22.470
23-Mar-01	29.402	12.828	21.773	29.988	12.956	22.170	29.402	12.828	21.773
24-Mar-01	31.912	20.034	25.966	32.046	19.928	26.063	31.912	20.034	25.966
25-Mar-01	33.300	20.864	27.038	32.902	20.726	27.113	33.300	20.864	27.038
26-Mar-01	27.500	20.578	23.723	27.330	20.716	23.939	27.500	20.578	23.723
27-Mar-01	28.548	18.920	23.151	29.034	18.930	23.389	28.548	18.920	23.151
28-Mar-01	28.846	19.098	23.255	29.758	18.990	23.577	28.846	19.098	23.255
29-Mar-01	25.930	16.244	20.560	27.186	16.178	21.001	25.930	16.244	20.560
30-Mar-01	25.158	13.778	19.118	26.150	13.712	19.386	25.158	13.778	19.118
31-Mar-01	26.232	14.480	19.452	27.498	14.276	19.671	26.232	14.480	19.452

Black Globe Temperature - Daily Maximum, Minimum and Averages Feedlot A

Date	Feedlot A External			Shaded Pen (A5)			Unshaded Pen (A6)		
	Max (°C)	Min (°C)	Ave (°C)	Max (°C)	Min (°C)	Ave (°C)	Max (°C)	Min (°C)	Ave (°C)
1-Jan-01									
2-Jan-01									
3-Jan-01									
4-Jan-01									
5-Jan-01									
6-Jan-01									
7-Jan-01									
8-Jan-01									
9-Jan-01									
10-Jan-01									
11-Jan-01									
12-Jan-01									
13-Jan-01									
14-Jan-01									
15-Jan-01	31.684	24.557	27.799	36.006	25.844	30.568	29.156	25.106	27.139
16-Jan-01	44.077	18.765	30.436	40.618	20.270	28.554	43.154	19.488	30.603
17-Jan-01	41.831	21.234	28.531	39.068	22.166	27.147	42.610	21.696	28.721
18-Jan-01	42.416	18.967	27.800	36.088	19.190	25.757	40.890	19.302	27.690
19-Jan-01	34.223	15.317	24.696	30.414	16.658	23.160	34.294	15.820	24.941
20-Jan-01	36.172	14.936	25.403	32.472	15.928	23.882	37.164	15.384	25.774
21-Jan-01	38.517	18.562	26.792	33.546	19.022	25.158	39.354	18.794	26.825
22-Jan-01	42.236	18.210	29.889	40.360	19.484	27.803	43.438	18.850	30.350
23-Jan-01	43.302	19.218	30.602	37.696	20.566	28.259	42.994	20.126	31.119
24-Jan-01	41.485	16.431	28.227	38.954	18.462	26.465	41.042	17.414	28.510
25-Jan-01	40.577	16.110	28.062	36.158	17.710	26.258	39.810	17.028	28.453
26-Jan-01	43.443	17.936	31.035	41.688	19.728	29.169	43.034	19.134	30.890
27-Jan-01	45.823	22.512	32.890	40.560	23.162	31.133	45.986	22.718	32.968
28-Jan-01	41.859	20.178	29.138	37.620	19.552	27.045	47.034	19.828	29.828
29-Jan-01	38.411	21.870	29.098	34.826	22.652	27.397	37.654	22.400	29.228
30-Jan-01	36.781	20.158	27.671	33.658	20.752	26.319	39.102	20.246	28.172
31-Jan-01	35.480	18.998	24.641	29.886	18.930	23.692	33.884	19.136	24.636
1-Feb-01	32.991	18.866	22.636	27.768	18.800	21.673	34.880	18.948	22.957
2-Feb-01	30.461	18.827	22.717	26.108	18.676	21.829	29.718	18.804	22.595
3-Feb-01	33.627	19.907	24.150	29.340	19.980	23.239	32.886	19.992	24.119
4-Feb-01	35.055	18.464	26.360	31.920	19.128	24.614	35.464	18.792	26.273
5-Feb-01	36.544	16.090	26.076	35.088	17.186	23.794	36.418	16.430	26.121
6-Feb-01	36.236	15.943	24.944	30.228	16.684	22.915	35.724	16.028	24.983
7-Feb-01	32.742	17.314	24.385	28.798	18.296	22.781	33.472	17.702	24.542
8-Feb-01	31.543	17.084	23.807	28.816	17.790	22.436	32.796	17.370	24.214
9-Feb-01	36.709	15.835	24.828	33.702	17.494	23.196	36.512	16.810	25.057
10-Feb-01	38.427	14.231	26.326	37.054	15.574	23.978	40.566	15.168	27.007
11-Feb-01	40.859	15.491	27.656	38.432	17.380	25.281	41.806	16.814	28.327
12-Feb-01	38.173	16.633	26.299	33.694	17.616	24.307	41.956	16.982	26.616
13-Feb-01	37.619	14.903	26.411	35.300	16.872	24.769	38.110	15.894	26.623
14-Feb-01	38.219	15.865	26.862	36.888	17.174	25.018	39.214	16.650	27.062
15-Feb-01	43.554	15.730	28.747	39.224	17.262	25.982	41.816	16.452	28.516

Black Globe Temperature - Daily Maximum, Minimum and Averages Feedlot A (cont.)

Date	Feedlot A External			Shaded Pen (A5)			Unshaded Pen (A6)		
	Max (°C)	Min (°C)	Ave (°C)	Max (°C)	Min (°C)	Ave (°C)	Max (°C)	Min (°C)	Ave (°C)
16-Feb-01	31.938	16.694	23.284	27.964	17.880	22.379	32.766	17.402	23.611
17-Feb-01	32.794	14.226	22.737	32.178	15.532	21.706	34.068	15.196	23.150
18-Feb-01	30.651	12.662	21.052	28.942	14.538	20.320	31.412	13.656	21.707
19-Feb-01	35.082	10.747	23.276	29.528	12.342	21.571	36.512	11.918	23.882
20-Feb-01	36.157	12.347	24.841	31.476	14.318	22.867	36.894	13.352	25.163
21-Feb-01	38.736	14.749	25.874	32.350	16.188	24.271	41.152	15.316	25.911
22-Feb-01	40.529	13.675	27.554	37.432	16.334	25.917	40.612	15.412	27.911
23-Feb-01	40.832	16.707	27.592	36.780	17.886	25.778	40.436	17.318	27.476
24-Feb-01	44.046	16.370	29.661	41.278	17.400	27.244	45.044	16.678	29.508
25-Feb-01	44.169	15.916	29.786	39.324	17.728	27.336	43.886	17.072	29.711
26-Feb-01	44.973	14.300	29.692	40.586	16.128	27.466	44.214	16.036	29.461
27-Feb-01	45.277	16.508	31.483	42.106	17.922	29.081	46.902	17.896	31.388
28-Feb-01	42.957	19.952	30.021	40.586	20.462	27.616	44.196	20.368	29.510
1-Mar-01	42.405	18.027	29.613	40.046	18.850	27.357	43.272	18.844	29.445
2-Mar-01	42.382	18.769	28.196	37.620	19.804	25.875	42.556	19.238	28.034
3-Mar-01	32.312	17.754	24.145	28.092	18.612	22.967	32.750	18.084	24.572
4-Mar-01	36.434	11.985	24.432	33.762	14.032	22.911	36.814	13.794	24.794
5-Mar-01	36.787	10.536	24.031	31.578	12.320	22.646	37.294	12.042	24.403
6-Mar-01	32.407	16.375	24.341	28.828	16.946	23.317	33.982	16.972	24.775
7-Mar-01	36.756	12.848	24.367	34.170	14.306	23.490	36.172	14.058	24.968
8-Mar-01	35.550	15.747	25.058	31.970	17.092	24.242	35.532	16.874	25.360
9-Mar-01	30.156	20.007	24.175	27.666	19.946	23.280	29.824	20.234	24.218
10-Mar-01	41.913	18.346	26.773	35.546	18.264	25.007	41.036	18.500	26.448
11-Mar-01	42.127	18.134	25.872	39.304	18.842	24.233	43.050	18.696	25.920
12-Mar-01	43.646	18.750	28.070	32.564	19.890	25.296	43.322	19.574	27.403
13-Mar-01	42.212	17.453	27.799	35.286	18.004	25.375	40.540	18.168	27.602
14-Mar-01	36.561	18.281	25.685	33.180	18.646	23.826	34.302	18.452	25.222
15-Mar-01	35.408	14.262	23.859	32.408	15.454	22.272	34.980	14.860	23.680
16-Mar-01	36.862	12.654	24.236	32.050	13.988	22.324	34.644	13.648	24.132
17-Mar-01	42.193	15.883	27.764	38.134	17.388	25.702	40.994	16.830	27.328
18-Mar-01	36.876	15.776	26.180	34.346	18.112	25.209	33.820	17.444	25.994
19-Mar-01	41.189	11.677	27.041	38.750	13.808	25.201	40.780	13.308	26.769
20-Mar-01	41.270	16.973	27.682	39.486	18.062	25.598	37.412	17.666	27.252
21-Mar-01	35.070	16.397	22.536	30.152	18.382	22.040	35.110	17.672	22.951
22-Mar-01	34.842	14.228	24.338	32.438	15.874	23.156	32.354	15.402	23.790
23-Mar-01	39.262	10.153	25.303	39.566	12.144	23.124	39.622	11.636	25.028
24-Mar-01	39.932	18.475	27.860	37.346	19.606	26.609	38.740	19.114	27.888
25-Mar-01	41.151	19.186	29.802	38.808	20.552	28.028	41.152	20.190	29.090
26-Mar-01	33.560	19.430	25.123	29.976	20.104	24.123	32.024	19.742	25.262
27-Mar-01	41.939	18.029	26.834	32.232	18.548	24.280	40.040	18.374	26.468
28-Mar-01	38.845	17.714	26.465	34.786	18.622	24.310	35.802	18.014	26.314
29-Mar-01	34.161	14.361	23.181	30.784	15.636	21.205	33.788	15.006	23.157
30-Mar-01	34.632	11.219	20.990	27.168	13.106	19.481	31.584	12.266	21.277
31-Mar-01	33.865	12.288	21.338	30.394	13.820	19.932	33.014	13.134	21.571

Ground Temperature - Daily Maximum, Minimum and Averages Feedlot A

Date	Feedlot A External			Shaded Pen (A5)			Unshaded Pen (A6)		
	Max (°C)	Min (°C)	Ave (°C)	Max (°C)	Min (°C)	Ave (°C)	Max (°C)	Min (°C)	Ave (°C)
1-Jan-01	25.809	21.972	24.060	22.680	20.584	21.751	32.312	27.366	29.850
2-Jan-01	27.422	21.433	24.281	23.222	21.052	22.102	36.396	26.930	30.846
3-Jan-01	29.535	21.149	25.172	24.522	20.808	22.742	31.038	26.562	28.848
4-Jan-01	30.085	22.171	26.039	25.392	21.810	23.672	33.150	26.576	29.073
5-Jan-01	30.930	22.957	26.837	25.910	22.590	24.318	33.094	26.804	28.990
6-Jan-01	31.629	23.936	27.540	26.140	23.236	24.778	31.748	27.384	29.118
7-Jan-01	30.468	24.366	27.579	26.312	23.434	25.034	33.568	27.874	30.092
8-Jan-01	32.268	24.649	28.271	27.156	24.164	25.686	33.898	28.004	30.078
9-Jan-01	31.941	24.569	27.958	26.708	24.446	25.619	31.298	27.446	28.993
10-Jan-01	30.073	24.623	27.223	26.036	24.216	25.164	32.190	27.070	29.126
11-Jan-01	30.511	24.125	27.224	26.350	23.924	25.204	34.156	27.668	30.370
12-Jan-01	32.463	24.405	28.226	26.802	24.168	25.589	35.830	28.846	31.722
13-Jan-01	34.298	25.696	29.769	27.728	24.904	26.409	36.644	30.208	32.518
14-Jan-01	34.603	27.157	30.798	28.544	25.782	27.240	36.466	30.942	33.306
15-Jan-01	35.464	27.517	31.254	28.354	26.102	27.321	34.394	33.412	33.895
16-Jan-01	35.057	28.164	31.521	28.662	26.168	27.473	36.484	31.280	33.252
17-Jan-01	34.861	28.281	30.721	27.842	25.216	26.570	37.036	30.636	32.980
18-Jan-01	31.651	25.949	28.605	25.634	23.402	24.575	35.332	29.766	32.042
19-Jan-01	30.103	23.810	26.696	23.380	21.760	22.424	33.292	28.052	30.265
20-Jan-01	30.994	23.183	26.803	22.666	20.638	21.755	34.082	27.490	30.371
21-Jan-01	30.669	24.879	27.442	23.742	22.356	22.939	33.724	29.060	30.861
22-Jan-01	33.725	24.826	28.909	25.464	23.236	24.292	36.056	28.846	31.913
23-Jan-01	34.235	26.534	30.180	27.062	25.002	25.989	36.162	30.082	32.731
24-Jan-01	33.883	26.465	30.009	26.808	25.478	26.143	35.724	29.940	32.380
25-Jan-01	33.822	26.233	29.858	26.524	24.816	25.730	34.904	29.640	32.019
26-Jan-01	34.676	27.008	30.726	27.020	25.464	26.253	36.020	30.172	32.710
27-Jan-01	36.058	28.402	31.960	27.418	25.882	26.663	35.446	30.908	32.960
28-Jan-01	32.958	26.994	29.673	27.038	24.716	25.479	36.162	28.414	31.209
29-Jan-01	30.415	26.241	28.155	25.062	24.418	24.755	32.472	27.846	30.050
30-Jan-01	29.373	25.474	27.349	24.512	23.626	24.047	33.162	28.514	30.621
31-Jan-01	28.153	24.589	26.290	24.010	23.258	23.548	32.124	25.080	29.830
1-Feb-01	25.675	23.043	24.124	23.252	21.908	22.633	28.134	25.120	26.239
2-Feb-01	24.660	22.371	23.524	22.618	21.280	21.947	26.312	23.944	25.258
3-Feb-01	25.341	22.714	23.941	23.412	21.670	22.528	26.948	24.280	25.448
4-Feb-01	26.244	23.198	24.476	23.652	22.132	22.832	28.316	24.256	26.015
5-Feb-01	26.432	22.030	23.996	23.354	20.768	22.069	32.132	23.872	27.455
6-Feb-01	25.686	22.003	23.731	22.612	20.376	21.590	31.930	25.344	28.362
7-Feb-01	25.085	22.265	23.569	22.506	20.518	21.535	30.836	26.358	28.426
8-Feb-01	24.560	22.174	23.371	22.836	20.770	21.879	29.932	26.288	28.102
9-Feb-01	25.097	21.777	23.327	23.354	21.050	22.199	31.342	26.018	28.389
10-Feb-01	25.761	21.605	23.595	23.728	21.014	22.455	33.528	26.218	29.471
11-Feb-01	26.649	22.305	24.360	24.752	21.956	23.378	34.078	27.604	30.491
12-Feb-01	27.065	22.947	24.870	24.210	22.288	23.370	33.078	28.144	30.384
13-Feb-01	27.861	22.953	25.249	24.206	22.216	23.350	33.338	27.930	30.383
14-Feb-01	28.873	23.470	25.922	24.104	22.470	23.439	33.632	28.312	30.720
15-Feb-01	30.057	23.697	26.654	24.372	22.602	23.601	34.876	28.538	31.336

Ground Temperature - Daily Maximum, Minimum and Averages Feedlot A (cont.)

Date	Feedlot A External			Shaded Pen (A5)			Unshaded Pen (A6)		
	Max (°C)	Min (°C)	Ave (°C)	Max (°C)	Min (°C)	Ave (°C)	Max (°C)	Min (°C)	Ave (°C)
16-Feb-01	26.911	24.578	25.741	23.834	22.688	23.211	31.118	29.436	30.287
17-Feb-01	26.741	22.945	24.649	22.552	21.754	22.160	30.926	27.874	29.255
18-Feb-01	25.621	22.210	23.879	22.080	21.328	21.730	29.824	27.312	28.574
19-Feb-01	26.831	20.988	23.768	21.956	21.066	21.512	30.926	26.326	28.490
20-Feb-01	27.621	21.965	24.709	22.312	21.072	21.608	31.656	26.980	29.144
21-Feb-01	28.236	22.849	25.447	23.264	21.026	22.186	32.204	27.378	29.531
22-Feb-01	29.401	23.097	26.150	24.068	21.676	22.955	33.236	27.606	30.134
23-Feb-01	30.407	24.211	27.037	24.376	22.456	23.458	33.668	28.394	30.731
24-Feb-01	31.525	24.695	27.867	25.008	22.732	23.944	34.926	28.880	31.558
25-Feb-01	31.960	25.376	28.496	25.390	23.384	24.466	35.346	29.640	32.188
26-Feb-01	32.163	25.313	28.585	25.486	23.352	24.505	35.368	29.750	32.327
27-Feb-01	32.680	25.834	29.123	26.130	23.820	25.053	35.752	30.220	32.669
28-Feb-01	32.743	26.865	29.553	25.772	24.458	25.165	35.780	31.030	33.025
1-Mar-01	32.327	26.870	29.498	25.774	24.416	25.118	35.396	31.276	33.225
2-Mar-01	32.033	26.867	29.260	25.338	23.070	24.802	35.624	31.558	33.242
3-Mar-01	28.705	26.100	27.152	24.532	22.974	23.641	32.354	30.474	31.497
4-Mar-01	29.395	23.534	26.351	22.804	21.704	22.347	32.664	28.696	30.635
5-Mar-01	28.873	23.324	26.193	22.738	21.238	22.083	32.568	28.612	30.600
6-Mar-01	27.695	24.297	26.053	22.950	21.774	22.351	31.480	29.078	30.322
7-Mar-01	28.212	23.407	25.793	23.450	22.092	22.786	31.756	28.638	30.192
8-Mar-01	27.623	24.277	26.003	24.032	22.740	23.355	31.126	29.224	30.211
9-Mar-01	26.876	24.504	25.656	23.960	23.310	23.655	30.624	29.094	29.888
10-Mar-01	29.015	24.229	26.387	24.616	23.188	23.813	32.370	29.144	30.579
11-Mar-01	28.469	24.257	25.949	23.950	22.734	23.282	33.232	29.254	30.398
12-Mar-01	28.459	23.442	25.655	23.964	22.352	23.101	33.420	28.488	30.418
13-Mar-01	29.254	23.230	25.945	23.892	22.456	23.192	34.404	27.702	30.658
14-Mar-01	28.187	23.469	25.562	23.296	22.386	22.768	33.226	28.808	30.711
15-Mar-01	28.131	22.420	24.987	22.322	21.310	21.821	33.082	28.026	30.240
16-Mar-01	28.069	22.224	24.987	22.652	21.072	21.835	32.522	27.922	30.087
17-Mar-01	28.969	22.793	25.654	23.590	21.600	22.558	32.788	28.122	30.265
18-Mar-01	28.755	24.493	26.292	24.408	23.114	23.672	31.448	29.166	30.132
19-Mar-01	29.655	22.625	25.974	24.220	22.596	23.482	32.572	27.526	29.895
20-Mar-01	29.828	24.173	26.824	24.880	23.364	24.097	32.924	28.432	30.386
21-Mar-01	26.651	24.292	25.517	24.522	23.678	24.178	30.118	27.710	29.137
22-Mar-01	26.907	23.391	24.620	23.522	22.512	22.956	31.298	27.168	28.568
23-Mar-01	27.672	20.500	23.861	22.400	21.118	21.691	31.988	25.164	28.292
24-Mar-01	27.742	22.783	25.180	22.974	21.542	22.160	31.232	27.246	29.182
25-Mar-01	29.053	23.964	26.435	24.078	22.904	23.441	32.190	28.090	29.993
26-Mar-01	26.648	24.063	25.211	24.000	23.508	23.688	29.800	27.096	28.257
27-Mar-01	27.095	22.740	24.708	23.422	22.484	22.942	31.232	25.386	28.040
28-Mar-01	26.685	23.081	24.685	23.178	22.602	22.906	32.136	26.790	29.091
29-Mar-01	24.939	21.635	23.164	22.822	21.688	22.114	31.010	26.428	28.450
30-Mar-01	23.721	20.185	21.894	21.584	20.794	21.058	29.344	25.588	27.315
31-Mar-01	24.436	19.924	21.999	21.052	20.400	20.748	29.796	25.252	27.258

Humidity - Daily Maximum, Minimum and Averages Feedlot A

Date	Feedlot A External			Shaded Pen (A5)			Unshaded Pen (A6)		
	Max (°C)	Min (°C)	Ave (°C)	Max (°C)	Min (°C)	Ave (°C)	Max (°C)	Min (°C)	Ave (°C)
1-Jan-01	80.870	53.883	66.249	92.680	64.400	77.481	87.750	43.220	63.398
2-Jan-01	87.717	41.583	61.794	98.420	47.430	70.712	87.580	40.640	62.900
3-Jan-01	89.883	39.037	62.233	98.340	43.810	70.401	91.650	38.860	62.148
4-Jan-01	92.820	36.973	61.246	99.990	41.450	69.103	92.130	38.400	61.439
5-Jan-01	94.240	36.690	60.818	99.990	41.550	68.220	89.050	36.990	60.956
6-Jan-01	89.203	34.910	60.079	99.870	37.690	67.578	83.910	41.010	61.068
7-Jan-01	85.403	38.910	60.034	94.350	44.750	67.909	87.220	40.340	65.647
8-Jan-01	88.363	38.440	64.781	98.380	44.250	74.079	90.870	45.910	69.116
9-Jan-01	90.593	43.303	67.534	99.990	50.470	77.665	80.480	48.060	64.667
10-Jan-01	80.330	46.887	63.601	90.690	53.490	72.738	82.840	40.530	62.480
11-Jan-01	84.507	38.150	61.590	93.430	43.850	69.993	81.090	38.670	59.221
12-Jan-01	81.297	37.453	58.189	92.180	44.630	66.845	81.910	36.390	57.668
13-Jan-01	81.550	33.477	56.135	92.190	36.750	63.985	77.090	39.330	57.532
14-Jan-01	76.423	37.750	56.193	86.550	43.120	64.240	78.400	36.630	57.432
15-Jan-01	78.507	34.890	54.944	88.380	37.660	62.654	54.910	46.080	50.283
16-Jan-01	71.807	42.477	57.739	82.480	48.620	66.571	72.440	44.070	59.257
17-Jan-01	75.640	38.163	62.265	85.980	42.880	70.705	76.790	40.240	63.641
18-Jan-01	88.110	51.947	69.974	99.630	60.620	81.016	87.670	51.120	71.539
19-Jan-01	89.240	42.320	66.129	99.990	48.990	75.753	89.920	45.170	67.285
20-Jan-01	84.203	38.967	62.384	95.090	44.490	70.948	84.210	39.890	63.102
21-Jan-01	90.180	43.573	66.714	99.990	49.410	76.387	90.580	45.280	68.123
22-Jan-01	85.890	36.087	61.510	97.850	41.090	70.534	86.960	37.280	62.616
23-Jan-01	82.780	37.713	59.966	93.850	43.330	68.758	82.570	39.230	61.230
24-Jan-01	87.643	33.330	59.053	97.490	36.130	67.010	86.480	36.220	60.148
25-Jan-01	85.963	43.793	63.166	97.780	49.910	72.281	86.570	46.090	64.498
26-Jan-01	84.857	31.617	56.600	93.920	35.090	64.651	83.280	36.080	58.338
27-Jan-01	70.773	28.717	51.765	80.540	30.860	59.025	72.160	29.850	53.992
28-Jan-01	94.367	46.010	77.099	99.990	53.930	86.261	94.380	46.470	77.168
29-Jan-01	91.660	50.390	72.740	99.990	59.070	82.475	91.990	52.420	73.601
30-Jan-01	86.473	55.340	71.398	99.820	59.320	80.732	89.150	53.030	71.583
31-Jan-01	93.247	60.750	74.493	99.990	71.600	85.322	93.580	63.520	76.013
1-Feb-01	93.900	79.560	87.875	99.990	91.020	97.632	94.440	80.990	88.960
2-Feb-01	95.787	78.370	88.385	99.990	90.290	98.089	96.620	80.360	90.147
3-Feb-01	95.523	75.350	88.084	99.990	85.500	97.879	96.010	77.620	89.735
4-Feb-01	90.910	59.493	78.700	99.990	68.550	89.094	92.060	61.950	80.278
5-Feb-01	92.453	51.040	72.719	99.990	59.350	82.751	93.040	53.640	74.533
6-Feb-01	92.807	53.007	72.695	99.990	61.510	83.049	93.750	54.000	74.182
7-Feb-01	83.580	57.863	72.526	95.270	66.360	83.131	85.360	58.020	73.822
8-Feb-01	87.473	63.630	76.475	98.540	72.280	87.006	88.700	62.660	77.159
9-Feb-01	90.380	50.427	70.294	99.990	57.000	79.498	89.970	48.920	70.440
10-Feb-01	93.987	38.530	66.405	99.990	42.860	74.157	92.980	38.790	65.932
11-Feb-01	91.233	51.523	68.308	98.710	55.290	76.498	88.760	49.210	67.420
12-Feb-01	86.383	48.910	67.820	97.300	53.760	76.538	86.910	47.750	67.873
13-Feb-01	92.170	47.117	68.883	99.990	51.830	77.167	91.700	46.370	68.682
14-Feb-01	90.363	41.280	66.397	99.990	46.740	74.583	89.860	41.730	66.133
15-Feb-01	90.873	42.297	65.192	99.730	46.570	73.285	90.450	40.210	64.726

Humidity - Daily Maximum, Minimum and Averages

Feedlot A (cont.)

Date	Feedlot A External			Shaded Pen (A5)			Unshaded Pen (A6)		
	Max (°C)	Min (°C)	Ave (°C)	Max (°C)	Min (°C)	Ave (°C)	Max (°C)	Min (°C)	Ave (°C)
16-Feb-01	89.635	58.325	72.248	99.440	62.820	80.242	89.220	56.250	71.704
17-Feb-01	83.950	49.090	65.455	90.950	53.140	72.058	81.740	47.470	64.710
18-Feb-01	88.685	53.845	74.523	98.020	58.270	82.351	87.830	52.470	74.539
19-Feb-01	95.055	44.815	68.769	99.990	48.070	76.306	93.220	42.830	67.546
20-Feb-01	90.113	40.238	63.865	98.690	44.970	71.023	88.350	39.700	63.650
21-Feb-01	90.135	36.718	63.241	98.450	39.930	71.078	88.180	37.760	63.657
22-Feb-01	91.173	35.770	61.186	99.700	39.870	68.263	89.750	36.870	61.240
23-Feb-01	88.538	41.105	63.846	98.540	45.210	72.084	88.630	41.050	64.408
24-Feb-01	90.473	35.280	62.171	99.490	38.180	69.961	89.940	36.370	62.751
25-Feb-01	88.210	29.765	60.227	98.210	32.110	67.736	87.440	29.650	60.815
26-Feb-01	85.900	34.080	56.596	94.670	37.540	63.459	83.650	35.950	57.169
27-Feb-01	69.653	30.320	50.051	78.010	34.860	56.667	70.750	30.170	50.953
28-Feb-01	84.060	36.150	60.581	95.160	40.470	68.875	84.980	36.860	61.464
1-Mar-01	81.770	41.565	62.634	91.130	48.350	71.192	82.210	42.230	63.504
2-Mar-01	86.678	43.383	65.119	98.520	49.320	73.860	86.330	43.730	65.991
3-Mar-01	89.665	49.423	70.125	98.670	55.590	78.933	89.000	50.750	71.031
4-Mar-01	87.513	32.620	58.009	95.490	36.020	64.926	85.780	34.380	58.871
5-Mar-01	81.988	36.930	57.036	92.330	41.830	63.926	82.410	38.260	58.052
6-Mar-01	73.070	44.465	57.966	80.700	49.820	64.921	72.410	45.810	59.187
7-Mar-01	87.853	39.230	61.948	97.520	44.890	69.494	87.100	40.720	62.986
8-Mar-01	81.480	42.960	61.096	91.880	48.400	69.039	81.990	45.220	62.575
9-Mar-01	77.685	56.348	64.971	88.060	63.100	73.712	78.650	58.010	66.753
10-Mar-01	90.320	44.783	70.988	99.990	52.310	80.581	90.920	45.890	71.975
11-Mar-01	93.738	51.093	79.345	99.990	57.990	88.834	93.150	54.600	80.231
12-Mar-01	89.888	49.530	75.400	99.990	57.250	86.051	89.810	53.430	77.146
13-Mar-01	96.625	44.340	77.575	99.990	54.080	85.598	96.520	49.720	78.564
14-Mar-01	87.868	50.780	70.695	98.330	61.320	82.186	88.690	54.430	73.493
15-Mar-01	89.508	47.353	68.348	98.680	54.670	78.078	89.010	49.240	69.916
16-Mar-01	93.910	45.405	71.188	99.990	52.150	80.097	92.020	46.980	71.699
17-Mar-01	89.445	41.908	64.249	98.910	46.940	72.622	88.760	43.300	65.585
18-Mar-01	88.590	42.308	63.875	98.880	48.410	72.066	88.320	43.750	65.522
19-Mar-01	79.020	35.693	55.747	86.870	39.560	62.581	77.770	36.700	56.224
20-Mar-01	87.110	44.970	65.641	97.960	49.910	74.669	87.450	47.680	67.175
21-Mar-01	93.993	58.875	80.325	99.990	65.930	89.291	93.370	61.010	81.009
22-Mar-01	94.165	44.333	72.652	99.990	54.450	80.867	94.440	49.030	74.711
23-Mar-01	89.570	32.338	58.748	96.090	36.960	65.687	85.260	36.460	58.895
24-Mar-01	84.638	50.538	65.094	95.410	56.430	74.380	84.940	52.600	66.664
25-Mar-01	89.443	46.210	66.283	98.280	52.200	74.697	87.790	47.570	67.445
26-Mar-01	94.780	67.875	81.145	99.990	77.210	89.993	94.740	69.510	81.748
27-Mar-01	88.025	59.123	71.290	98.970	67.010	80.111	87.850	59.250	71.225
28-Mar-01	93.113	40.105	70.230	99.990	43.280	78.953	92.190	39.610	70.000
29-Mar-01	86.745	39.338	65.892	96.620	43.170	74.270	86.200	40.120	66.262
30-Mar-01	92.533	47.960	72.875	99.990	53.040	81.481	90.670	48.490	72.915
31-Mar-01	94.683	41.230	72.074	99.990	44.960	79.478	93.550	41.210	72.134

Wind Direction - Daily Maximum, Minimum and Averages

Feedlot A

Date	Feedlot A External			Shaded Pen (A5)			Unshaded Pen (A6)		
	Max (°C)	Min (°C)	Ave (°C)	Max (°C)	Min (°C)	Ave (°C)	Max (°C)	Min (°C)	Ave (°C)
1-Jan-01	109.736	67.978	89.939	112.312	56.178	82.799	163.258	84.107	105.635
2-Jan-01	133.776	69.927	91.661	146.548	61.508	85.837	161.702	62.957	93.338
3-Jan-01	116.943	53.933	78.826	152.897	47.563	73.131	171.757	71.688	98.142
4-Jan-01	121.670	58.485	81.110	197.357	50.603	78.724	130.665	66.297	99.514
5-Jan-01	102.693	59.699	81.287	112.835	50.562	78.740	151.903	69.653	102.559
6-Jan-01	122.980	65.232	88.388	129.202	54.373	81.375	154.475	59.872	103.278
7-Jan-01	120.701	58.661	85.067	145.080	41.433	84.464	305.017	43.070	146.368
8-Jan-01	278.680	65.127	142.100	311.665	47.243	138.881	181.552	70.650	105.778
9-Jan-01	161.153	65.816	97.845	179.515	53.417	89.058	244.617	76.785	100.216
10-Jan-01	150.623	66.864	86.434	261.828	59.165	91.452	145.015	67.620	96.819
11-Jan-01	125.498	59.901	85.971	128.572	52.220	78.563	278.198	31.440	141.350
12-Jan-01	255.429	31.194	137.039	308.137	27.007	131.301	321.105	2.373	164.356
13-Jan-01	284.074	62.265	173.178	345.300	14.300	169.083	288.187	67.360	137.494
14-Jan-01	262.476	52.181	131.379	282.850	51.490	129.707	340.193	67.256	177.861
15-Jan-01	309.690	29.525	148.394	315.803	24.783	156.453	133.903	34.287	62.021
16-Jan-01	226.369	69.178	108.231	224.320	61.650	101.404	245.405	80.263	120.338
17-Jan-01	350.698	21.406	220.283	348.790	16.485	222.424	356.047	28.175	187.698
18-Jan-01	343.957	39.040	179.934	350.317	33.642	177.973	342.238	46.673	171.040
19-Jan-01	143.374	100.328	115.468	137.253	86.222	102.827	152.958	111.407	124.338
20-Jan-01	180.065	104.903	127.065	177.955	93.257	116.131	191.438	115.562	135.853
21-Jan-01	133.399	65.515	90.540	130.095	54.477	79.833	143.248	75.030	99.578
22-Jan-01	108.821	54.501	77.510	92.670	38.698	66.806	115.578	62.070	85.308
23-Jan-01	327.040	35.268	102.323	334.475	42.065	102.027	245.325	40.188	104.613
24-Jan-01	119.152	66.858	85.249	120.607	55.805	74.689	130.828	74.795	93.608
25-Jan-01	114.208	53.259	76.242	101.407	43.737	66.285	123.205	55.753	84.680
26-Jan-01	338.530	35.693	154.183	339.572	24.093	144.242	340.288	26.950	140.604
27-Jan-01	321.546	26.533	199.378	340.962	26.798	197.373	332.688	27.803	196.740
28-Jan-01	286.383	31.253	156.435	276.195	22.087	141.262	278.367	30.497	147.092
29-Jan-01	93.460	63.828	75.283	84.373	52.138	66.596	103.900	76.330	86.478
30-Jan-01	169.643	43.635	79.782	238.790	35.462	84.496	121.752	14.277	78.665
31-Jan-01	95.047	33.610	63.898	83.920	24.942	56.663	106.205	40.238	74.464
1-Feb-01	155.402	63.852	103.201	147.510	56.740	92.569	162.757	73.008	113.767
2-Feb-01	151.466	72.275	100.690	141.175	59.778	86.537	159.468	80.845	108.994
3-Feb-01	121.491	46.018	83.958	120.740	38.998	73.067	132.865	55.767	94.715
4-Feb-01	89.018	62.020	76.930	74.952	54.383	66.253	99.820	72.723	88.113
5-Feb-01	104.655	56.494	74.966	111.227	50.207	67.341	133.995	65.878	85.935
6-Feb-01	138.813	55.502	97.093	133.110	48.365	85.607	151.923	64.417	107.342
7-Feb-01	131.168	103.073	114.969	120.773	88.818	101.888	138.670	108.188	123.316
8-Feb-01	142.755	74.892	106.447	136.335	61.053	92.436	148.653	85.973	115.440
9-Feb-01	112.804	61.886	90.671	101.102	55.375	78.328	118.903	69.358	98.682
10-Feb-01	136.581	57.482	83.433	121.142	43.317	73.729	141.432	67.728	93.974
11-Feb-01	308.101	55.533	122.826	299.050	52.002	118.062	296.217	70.452	130.366
12-Feb-01	135.133	54.919	82.940	130.522	47.802	75.258	143.198	66.125	94.709
13-Feb-01	132.278	61.337	79.595	116.247	54.775	72.812	129.162	72.915	91.418
14-Feb-01	82.008	59.854	69.859	75.640	50.643	61.311	92.377	69.658	80.506
15-Feb-01	145.357	59.581	84.710	170.408	47.318	78.453	128.855	70.478	91.813

Wind Direction - Daily Maximum, Minimum and Averages Feedlot A (cont.)

Date	Feedlot A External			Shaded Pen (A5)			Unshaded Pen (A6)		
	Max (°C)	Min (°C)	Ave (°C)	Max (°C)	Min (°C)	Ave (°C)	Max (°C)	Min (°C)	Ave (°C)
16-Feb-01	158.718	74.437	117.320	150.358	59.697	102.964	166.565	80.955	123.164
17-Feb-01	184.197	98.653	121.161	180.290	81.467	108.362	194.968	104.057	128.519
18-Feb-01	147.243	89.114	111.801	142.900	76.840	99.188	156.398	100.048	120.205
19-Feb-01	215.133	77.619	124.645	211.965	59.742	115.427	230.638	88.417	133.829
20-Feb-01	151.080	72.546	103.682	140.445	64.062	92.411	156.795	77.140	112.096
21-Feb-01	172.369	37.730	76.728	231.777	24.268	80.740	131.813	43.945	81.511
22-Feb-01	154.177	67.531	103.138	168.982	58.818	100.600	167.812	76.755	113.750
23-Feb-01	121.084	62.056	89.588	116.272	54.712	81.250	130.462	71.128	99.884
24-Feb-01	252.848	60.828	105.818	272.687	51.330	111.836	209.605	31.025	103.757
25-Feb-01	175.432	59.692	101.689	183.412	53.437	94.380	157.712	69.180	102.268
26-Feb-01	247.791	53.083	132.239	249.423	49.258	127.439	267.305	62.015	140.788
27-Feb-01	281.678	40.267	135.679	266.522	32.593	121.689	294.407	50.218	136.632
28-Feb-01	115.925	62.582	77.049	111.190	54.075	70.242	134.358	70.835	89.421
1-Mar-01	254.557	37.120	100.503	268.482	16.910	92.324	288.002	26.107	106.305
2-Mar-01	146.373	74.925	94.166	140.713	63.698	87.295	157.713	81.277	106.389
3-Mar-01	129.399	75.786	105.584	121.470	65.392	96.674	139.077	86.862	117.061
4-Mar-01	315.219	75.276	155.392	254.343	67.473	144.750	318.905	87.750	162.893
5-Mar-01	301.754	86.655	156.733	305.878	24.878	144.020	314.437	85.632	165.548
6-Mar-01	187.025	114.489	152.935	181.870	106.198	146.922	192.378	124.248	163.235
7-Mar-01	225.028	84.190	157.786	262.987	48.942	149.241	257.617	118.575	170.591
8-Mar-01	291.311	134.799	196.488	284.045	127.250	194.663	290.815	145.873	207.787
9-Mar-01	319.794	80.711	235.979	321.673	73.962	234.620	328.747	93.112	245.366
10-Mar-01	213.915	39.918	98.528	212.938	38.013	92.309	224.137	15.235	99.470
11-Mar-01	152.550	28.188	80.957	162.318	40.142	79.614	164.178	33.672	91.395
12-Mar-01	314.539	22.562	163.878	333.780	18.705	170.053	320.852	28.838	170.038
13-Mar-01	225.221	26.444	121.063	199.397	20.697	114.362	215.187	24.452	124.510
14-Mar-01	99.588	78.647	87.434	91.767	70.568	79.588	111.885	91.135	98.980
15-Mar-01	138.968	81.958	97.137	133.635	75.550	90.368	148.512	93.627	107.892
16-Mar-01	240.837	66.357	102.786	234.180	60.497	98.023	242.078	75.697	113.807
17-Mar-01	314.034	29.697	147.045	335.730	10.215	144.879	323.867	17.738	152.870
18-Mar-01	338.757	65.041	241.666	335.693	64.088	235.277	347.285	9.295	234.563
19-Mar-01	259.956	41.231	134.804	261.122	16.433	129.313	283.140	22.892	142.866
20-Mar-01	339.729	9.366	156.111	333.620	7.097	154.122	347.968	11.368	138.711
21-Mar-01	344.697	29.507	202.534	355.768	18.860	211.599	350.215	33.842	189.423
22-Mar-01	333.873	70.647	251.245	323.898	42.032	235.701	337.213	86.348	256.787
23-Mar-01	260.367	31.636	121.498	264.608	36.905	119.140	274.107	42.273	130.890
24-Mar-01	331.356	23.303	140.838	341.942	25.615	137.306	346.383	15.345	120.196
25-Mar-01	336.313	8.155	162.487	334.465	7.073	155.673	323.593	9.205	139.742
26-Mar-01	274.938	81.691	197.815	264.850	70.968	192.818	279.040	91.467	206.236
27-Mar-01	279.746	72.920	174.409	257.737	64.827	166.909	236.608	83.470	177.542
28-Mar-01	231.718	47.609	137.780	238.813	43.513	132.391	243.343	54.442	147.336
29-Mar-01	130.560	72.416	100.621	129.123	63.687	93.564	145.312	81.525	111.599
30-Mar-01	161.254	85.631	111.385	159.888	73.960	105.935	170.935	95.052	122.685
31-Mar-01	142.791	87.587	113.219	140.857	78.015	108.219	153.967	103.638	125.070

2 metre Wind Speed - Daily Maximum, Minimum and Averages Feedlot A

Date	Feedlot A External			Shaded Pen (A5)			Unshaded Pen (A6)		
	Max (°C)	Min (°C)	Ave (°C)	Max (°C)	Min (°C)	Ave (°C)	Max (°C)	Min (°C)	Ave (°C)
1-Jan-01	22.352	4.158	13.566	18.870	2.693	11.632	17.913	0.968	10.385
2-Jan-01	22.498	2.555	12.885	17.288	1.265	9.795	18.387	0.000	9.890
3-Jan-01	20.797	1.958	12.338	14.450	0.813	8.443	16.847	0.182	9.560
4-Jan-01	17.733	1.635	10.722	14.652	0.000	8.292	14.702	0.952	7.835
5-Jan-01	17.292	2.340	10.277	13.470	0.298	7.425	17.647	1.205	9.051
6-Jan-01	23.005	2.562	13.039	16.690	1.770	9.308	15.928	0.968	7.460
7-Jan-01	20.835	3.818	10.961	15.402	2.152	7.672	17.595	0.000	7.027
8-Jan-01	22.613	0.833	8.989	20.874	0.000	6.884	20.562	2.462	9.050
9-Jan-01	25.873	4.780	11.839	21.588	3.242	8.649	16.123	3.173	9.443
10-Jan-01	18.082	4.417	10.697	14.747	1.555	7.976	14.088	4.187	8.825
11-Jan-01	18.012	3.628	10.988	13.320	2.671	8.073	11.863	1.698	6.112
12-Jan-01	14.945	2.383	7.387	10.975	0.653	4.834	10.748	2.043	5.756
13-Jan-01	11.232	1.512	6.945	9.905	0.553	4.745	20.053	1.700	7.307
14-Jan-01	24.535	1.963	8.920	15.720	0.463	5.898	10.712	1.927	5.160
15-Jan-01	12.734	2.512	6.296	9.493	1.010	4.550	7.928	1.918	4.844
16-Jan-01	22.173	1.416	11.219	15.818	0.000	7.962	20.330	1.120	9.583
17-Jan-01	15.602	2.345	10.373	14.290	2.168	8.383	13.772	3.137	9.102
18-Jan-01	22.194	3.399	12.098	18.007	1.010	9.725	18.292	1.963	10.231
19-Jan-01	22.912	5.220	15.277	16.890	2.365	10.873	18.215	2.423	10.980
20-Jan-01	28.544	4.666	16.712	18.995	1.978	10.834	18.613	2.655	11.193
21-Jan-01	19.635	4.607	13.464	13.380	2.210	9.073	18.852	2.942	10.713
22-Jan-01	16.338	2.728	10.614	10.527	1.383	6.934	14.422	4.422	8.758
23-Jan-01	17.013	3.074	9.230	12.412	0.867	6.025	13.610	3.180	7.747
24-Jan-01	21.278	1.945	12.545	14.162	0.492	8.626	20.295	1.322	10.498
25-Jan-01	20.058	3.166	11.198	12.955	2.518	7.537	16.123	3.347	9.624
26-Jan-01	14.785	0.758	6.458	9.155	0.000	3.861	12.070	1.445	5.362
27-Jan-01	23.857	1.092	10.571	16.643	0.000	8.210	19.818	0.215	9.699
28-Jan-01	26.528	2.880	8.974	17.967	0.873	5.688	22.115	2.643	7.757
29-Jan-01	19.058	3.175	11.268	18.378	1.365	8.141	15.657	2.917	9.561
30-Jan-01	22.311	4.095	9.980	16.282	1.857	6.256	18.972	3.003	7.903
31-Jan-01	29.521	8.730	16.141	16.495	4.238	10.197	21.407	6.698	12.581
1-Feb-01	21.706	6.383	13.815	16.987	3.707	9.962	16.862	5.708	10.932
2-Feb-01	27.333	6.810	17.112	22.167	4.363	13.471	21.268	5.368	13.703
3-Feb-01	23.253	4.078	13.557	16.722	0.883	9.740	19.740	2.297	11.047
4-Feb-01	24.615	8.413	14.875	18.298	6.247	11.769	20.997	6.867	13.113
5-Feb-01	13.631	2.102	8.856	10.565	0.785	5.888	10.853	2.105	7.767
6-Feb-01	22.002	5.108	12.916	15.032	3.295	9.172	17.295	3.470	10.223
7-Feb-01	24.427	6.718	14.755	18.375	3.213	9.894	18.737	4.133	10.291
8-Feb-01	19.782	6.433	13.589	15.923	3.140	10.236	18.530	4.925	11.200
9-Feb-01	15.228	3.186	10.394	14.720	1.942	7.525	14.000	3.038	8.688
10-Feb-01	11.735	2.259	7.324	8.347	0.903	4.555	9.965	2.245	5.853
11-Feb-01	17.493	0.828	8.657	11.252	0.000	5.150	13.542	0.423	6.809
12-Feb-01	18.048	6.230	11.605	15.660	3.780	8.116	16.415	3.898	9.898
13-Feb-01	18.405	2.549	10.519	11.400	1.060	6.750	13.372	1.725	8.479
14-Feb-01	16.176	5.687	10.888	10.383	3.250	6.910	15.027	4.543	9.121
15-Feb-01	19.230	1.835	9.674	14.100	0.388	6.176	14.993	1.183	7.803

2 metre Wind Speed - Daily Maximum, Minimum and Averages Feedlot A (cont.)

Date	Feedlot A External			Shaded Pen (A5)			Unshaded Pen (A6)		
	Max (°C)	Min (°C)	Ave (°C)	Max (°C)	Min (°C)	Ave (°C)	Max (°C)	Min (°C)	Ave (°C)
16-Feb-01	28.143	4.455	15.246	19.862	1.897	11.005	19.587	2.567	10.138
17-Feb-01	21.128	2.408	12.076	14.595	2.493	9.705	15.922	2.552	9.540
18-Feb-01	22.270	3.263	10.224	14.603	0.860	7.522	15.697	1.725	7.948
19-Feb-01	26.944	0.731	12.085	14.522	0.355	7.959	18.365	1.235	8.566
20-Feb-01	15.613	3.310	9.833	12.242	1.137	6.637	11.555	1.502	7.033
21-Feb-01	14.051	1.826	8.307	10.493	0.000	5.012	12.127	1.508	6.863
22-Feb-01	19.752	1.028	9.861	12.658	0.000	6.419	14.487	0.798	7.338
23-Feb-01	14.971	4.818	10.443	12.880	2.027	7.647	14.883	2.590	8.898
24-Feb-01	15.548	3.454	8.796	8.492	0.365	5.332	12.460	2.277	6.508
25-Feb-01	14.004	1.298	8.221	11.717	0.000	5.466	12.050	0.742	6.132
26-Feb-01	11.274	1.225	6.463	8.703	0.158	3.407	8.108	1.187	4.762
27-Feb-01	19.981	1.133	8.968	15.367	0.000	5.526	15.142	0.000	6.463
28-Feb-01	23.726	7.250	12.837	17.475	4.550	9.155	18.613	5.738	10.272
1-Mar-01	20.868	3.158	10.292	16.612	1.542	7.123	18.478	2.710	8.486
2-Mar-01	15.155	4.941	9.234	10.830	2.717	6.893	12.498	3.498	7.373
3-Mar-01	16.049	3.150	9.129	10.305	2.203	6.398	9.827	2.778	6.075
4-Mar-01	25.576	1.427	9.170	15.697	0.187	6.135	14.758	1.042	6.440
5-Mar-01	21.483	1.355	10.142	13.822	0.000	6.021	18.007	0.268	6.094
6-Mar-01	24.864	6.309	15.405	18.690	2.730	10.438	15.587	2.487	9.291
7-Mar-01	22.937	1.726	12.595	15.752	0.000	7.873	15.818	0.892	8.142
8-Mar-01	17.974	1.846	8.202	13.310	0.447	5.063	11.167	1.743	5.902
9-Mar-01	19.083	4.089	9.273	13.125	1.317	6.620	12.410	2.230	7.457
10-Mar-01	19.948	4.677	12.776	15.937	2.392	9.021	14.222	2.805	10.097
11-Mar-01	20.287	3.596	11.272	15.472	0.387	7.658	15.830	2.188	8.352
12-Mar-01	23.059	1.875	9.612	15.765	0.258	6.481	15.963	1.878	7.114
13-Mar-01	21.292	1.019	7.786	17.898	0.000	4.728	16.748	0.717	5.480
14-Mar-01	21.656	6.126	14.851	15.332	5.042	11.850	16.380	5.080	11.588
15-Mar-01	21.166	4.102	10.675	15.163	1.307	7.743	16.398	1.085	7.987
16-Mar-01	16.367	1.589	10.294	10.998	0.000	6.163	14.777	0.385	7.861
17-Mar-01	11.798	2.484	7.604	10.283	0.000	5.067	9.853	1.358	6.193
18-Mar-01	19.934	1.766	10.842	16.092	0.000	7.358	17.460	0.845	8.531
19-Mar-01	17.763	1.231	5.799	11.647	0.000	3.008	12.053	0.295	4.297
20-Mar-01	21.336	2.825	9.872	13.717	0.000	6.772	17.935	1.070	7.579
21-Mar-01	19.821	1.248	8.630	19.050	0.000	5.754	16.782	0.818	6.635
22-Mar-01	14.895	1.682	7.947	10.227	0.000	4.738	12.910	0.557	6.244
23-Mar-01	10.859	0.876	5.097	5.717	0.000	2.008	9.193	0.437	3.622
24-Mar-01	13.819	2.432	8.308	10.848	0.165	5.040	10.437	0.953	6.469
25-Mar-01	12.983	2.118	6.986	10.482	0.195	4.725	11.183	1.168	5.858
26-Mar-01	14.504	1.637	6.956	8.378	0.000	3.690	12.502	1.107	5.300
27-Mar-01	14.559	1.214	6.248	7.948	0.000	3.387	11.663	0.493	4.681
28-Mar-01	11.367	1.105	7.284	7.420	0.255	4.510	10.413	0.382	6.082
29-Mar-01	16.019	5.106	11.114	14.805	2.405	7.990	13.888	2.975	7.768
30-Mar-01	23.411	2.062	10.972	14.258	0.000	8.054	14.423	1.058	7.335
31-Mar-01	24.162	2.410	11.352	16.568	0.000	6.990	13.210	1.232	5.905

10 metre Wind Speed - Daily Maximum, Minimum and Averages Feedlot A

Date	Feedlot A External			Unshaded Pen (A6)		
	Max (°C)	Min (°C)	Ave (°C)	Max (°C)	Min (°C)	Ave (°C)
1-Jan-01	26.283	7.845	18.419	29.383	4.992	16.889
2-Jan-01	25.761	5.343	16.762	24.448	2.820	14.747
3-Jan-01	21.847	3.743	14.177	25.180	1.375	14.372
4-Jan-01	20.162	3.311	14.141	21.908	4.397	13.106
5-Jan-01	18.739	4.905	12.856	26.347	4.573	15.587
6-Jan-01	23.306	5.337	14.816	25.107	5.087	13.016
7-Jan-01	24.187	5.386	12.354	31.643	2.828	11.979
8-Jan-01	26.423	4.058	11.059	31.778	5.253	14.721
9-Jan-01	28.604	6.149	14.189	25.917	5.815	14.558
10-Jan-01	22.278	7.094	14.008	21.260	6.108	13.626
11-Jan-01	19.611	6.191	13.306	20.798	3.392	9.668
12-Jan-01	17.363	5.523	9.002	15.943	4.162	8.850
13-Jan-01	14.460	3.871	8.307	29.758	4.110	11.041
14-Jan-01	23.480	3.500	10.004	15.778	3.443	8.179
15-Jan-01	16.931	3.428	7.918	13.565	5.148	8.798
16-Jan-01	25.189	2.167	13.517	30.368	2.507	14.108
17-Jan-01	19.228	4.049	12.733	21.033	5.028	13.463
18-Jan-01	26.645	4.286	15.720	25.292	4.542	15.655
19-Jan-01	27.178	5.633	18.415	26.692	5.237	17.433
20-Jan-01	28.299	5.517	18.161	27.897	5.612	18.422
21-Jan-01	22.019	4.747	15.558	25.708	5.070	16.415
22-Jan-01	19.612	4.487	13.104	19.668	6.837	13.264
23-Jan-01	19.381	4.921	11.258	21.207	5.798	11.854
24-Jan-01	26.238	2.632	15.541	30.598	2.335	16.184
25-Jan-01	22.077	5.124	13.599	22.405	5.753	14.503
26-Jan-01	16.998	2.259	7.960	19.732	3.360	8.863
27-Jan-01	30.042	1.379	13.080	31.893	2.087	14.601
28-Jan-01	33.190	3.485	11.024	36.092	4.015	12.002
29-Jan-01	22.499	4.039	13.851	27.303	5.642	15.264
30-Jan-01	25.735	5.585	11.269	25.928	4.845	12.186
31-Jan-01	31.013	8.994	18.656	32.578	9.535	19.676
1-Feb-01	26.947	9.279	16.817	27.712	9.813	17.843
2-Feb-01	31.759	8.386	21.412	34.373	8.440	21.796
3-Feb-01	28.604	4.013	16.976	27.307	4.627	17.451
4-Feb-01	25.992	9.969	18.116	30.472	10.942	19.492
5-Feb-01	16.160	2.833	10.997	15.322	3.588	11.621
6-Feb-01	24.133	6.537	15.610	25.248	6.650	15.679
7-Feb-01	26.709	7.342	16.881	27.917	7.127	16.479
8-Feb-01	25.039	6.898	16.973	26.627	7.450	17.264
9-Feb-01	18.234	4.754	12.774	21.412	5.960	13.317
10-Feb-01	14.857	2.722	9.074	17.902	4.630	9.558
11-Feb-01	18.764	0.702	9.820	19.960	1.010	10.218
12-Feb-01	22.698	7.165	14.067	23.073	7.312	14.269
13-Feb-01	20.698	3.532	12.742	19.540	4.462	13.005
14-Feb-01	18.421	7.525	12.944	19.870	8.625	13.900
15-Feb-01	22.760	2.552	11.471	25.225	3.350	12.073

10 metre Wind Speed - Daily Maximum, Minimum and Averages Feedlot A (cont.)

Date	Feedlot A External			Unshaded Pen (A6)		
	Max (°C)	Min (°C)	Ave (°C)	Max (°C)	Min (°C)	Ave (°C)
16-Feb-01	30.434	5.333	17.432	30.737	5.075	17.438
17-Feb-01	22.854	4.211	15.254	25.852	5.207	15.838
18-Feb-01	22.874	4.731	13.050	25.152	4.328	13.350
19-Feb-01	23.114	1.862	13.889	28.340	3.203	14.534
20-Feb-01	18.837	3.387	11.248	19.162	4.127	11.331
21-Feb-01	16.259	1.738	9.928	17.718	2.028	10.511
22-Feb-01	24.074	1.604	11.742	22.442	2.058	12.114
23-Feb-01	19.606	5.961	13.276	21.943	6.158	14.060
24-Feb-01	17.474	4.548	10.506	21.137	4.080	10.851
25-Feb-01	18.014	1.226	9.747	17.603	1.560	10.027
26-Feb-01	13.499	0.618	7.756	14.132	1.772	7.749
27-Feb-01	25.463	0.611	10.219	24.227	1.463	10.768
28-Feb-01	30.391	9.334	15.388	31.203	9.093	16.456
1-Mar-01	24.866	3.034	12.703	26.602	4.200	13.522
2-Mar-01	18.735	6.166	11.368	20.637	6.222	12.216
3-Mar-01	15.588	4.028	10.854	16.638	4.358	11.227
4-Mar-01	28.551	2.216	11.294	21.505	2.420	10.918
5-Mar-01	24.624	0.660	10.814	23.657	0.920	11.368
6-Mar-01	26.664	7.395	17.298	28.220	6.330	17.959
7-Mar-01	27.933	0.881	14.397	24.852	1.523	14.694
8-Mar-01	21.611	2.359	9.529	22.428	2.890	10.099
9-Mar-01	24.076	3.829	11.098	25.345	3.977	12.014
10-Mar-01	23.574	5.214	15.607	24.535	4.898	16.512
11-Mar-01	23.148	5.281	13.762	25.602	4.927	14.259
12-Mar-01	26.302	2.208	10.853	30.282	3.000	11.901
13-Mar-01	25.251	0.558	8.807	26.707	1.062	9.087
14-Mar-01	30.398	9.270	19.655	29.013	9.155	20.795
15-Mar-01	26.350	5.567	13.939	30.103	5.372	15.325
16-Mar-01	20.076	2.054	12.629	21.253	2.110	13.371
17-Mar-01	14.463	3.292	8.723	17.103	3.210	9.531
18-Mar-01	22.287	1.727	12.627	22.317	2.073	12.952
19-Mar-01	21.068	0.332	6.403	20.748	0.000	6.981
20-Mar-01	24.274	3.483	10.971	26.745	3.198	11.652
21-Mar-01	21.944	1.379	9.578	24.087	1.730	10.465
22-Mar-01	17.002	1.396	9.022	17.152	2.602	9.400
23-Mar-01	12.582	1.032	5.762	12.462	1.405	6.383
24-Mar-01	16.258	2.564	9.570	17.793	2.592	10.235
25-Mar-01	15.167	2.379	7.879	16.035	3.282	8.776
26-Mar-01	15.614	1.479	7.706	15.252	1.977	7.611
27-Mar-01	16.691	1.026	6.998	16.685	1.465	7.481
28-Mar-01	14.333	1.007	8.310	15.443	1.263	9.063
29-Mar-01	22.478	5.976	13.923	24.878	5.765	15.034
30-Mar-01	28.089	1.916	14.034	28.292	2.888	14.714
31-Mar-01	26.989	3.139	13.239	25.657	3.305	12.680

Solar Radiation (Incoming) - Daily Maximum, Minimum and Averages Feedlot A

Date	Feedlot A External			Shaded Pen (A5)			Unshaded Pen (A6)		
	Max (°C)	Min (°C)	Ave (°C)	Max (°C)	Min (°C)	Ave (°C)	Max (°C)	Min (°C)	Ave (°C)
1-Jan-01	1519.0	0.0	311.2						
2-Jan-01	1187.9	0.0	401.3						
3-Jan-01	1187.6	0.0	387.8						
4-Jan-01	1165.7	0.0	388.2						
5-Jan-01	1143.2	0.0	386.6						
6-Jan-01	840.0	0.0	208.5						
7-Jan-01	1151.9	0.0	352.5						
8-Jan-01	1213.4	0.0	326.7						
9-Jan-01	1254.9	0.0	264.3						
10-Jan-01	1268.1	0.0	369.1						
11-Jan-01	1268.1	0.0	318.9						
12-Jan-01	1253.5	0.0	291.8						
13-Jan-01	1200.3	0.0	391.8						
14-Jan-01	1138.8	0.0	350.0						
15-Jan-01	1121.5	0.0	361.6						
16-Jan-01	1082.9	0.0	353.7	957.5	0.0	90.1	1064.8	0.0	347.7
17-Jan-01	1092.6	0.0	297.6	983.4	0.0	97.7	1068.7	0.0	299.3
18-Jan-01	964.3	0.2	265.8	827.2	0.0	84.3	904.2	0.0	272.4
19-Jan-01	1189.2	0.3	357.0	1088.9	0.0	73.2	1165.0	0.0	323.0
20-Jan-01	1097.4	0.3	289.8	1032.1	0.0	69.9	1268.3	0.0	344.8
21-Jan-01	1228.0	0.3	277.9	572.5	0.0	49.2	1268.6	0.0	298.4
22-Jan-01	1251.8	0.2	387.3	1025.0	0.0	58.8	1126.6	0.0	344.7
23-Jan-01	1150.2	0.2	343.8	993.9	0.0	62.9	1139.9	0.0	342.0
24-Jan-01	1141.6	0.4	380.6	1023.8	0.0	65.6	1110.5	0.0	363.4
25-Jan-01	1212.0	0.3	392.2	1006.2	0.0	84.7	1168.5	0.0	378.7
26-Jan-01	1274.7	0.2	297.7	997.7	0.0	62.9	1103.9	0.0	237.0
27-Jan-01	1123.5	0.3	335.0	969.0	0.0	69.6	1228.5	0.0	331.4
28-Jan-01	1054.0	0.5	304.4	841.7	0.0	71.3	1195.7	0.0	291.7
29-Jan-01	1043.8	0.5	235.9	1005.6	0.0	113.0	1156.9	0.0	238.5
30-Jan-01	911.6	0.5	225.9	232.8	0.0	47.3	865.1	0.0	222.1
31-Jan-01	663.0	0.7	141.6	173.9	0.0	36.3	1364.2	0.0	165.5
1-Feb-01	662.3	0.8	155.8	259.7	0.0	42.5	501.3	0.0	135.9
2-Feb-01	538.1	0.8	141.5	111.1	0.0	35.0	427.1	0.0	124.9
3-Feb-01	846.9	0.8	183.0	291.7	0.0	51.5	1416.4	0.0	216.3
4-Feb-01	1344.7	0.8	314.5	889.7	0.0	92.9	1315.6	0.0	315.4
5-Feb-01	1160.6	0.8	338.3	361.2	0.0	44.9	1403.3	0.0	364.0
6-Feb-01	1275.5	0.9	319.3	304.3	0.0	40.1	1233.6	0.0	336.3
7-Feb-01	1177.8	1.0	271.8	180.0	0.0	41.3	1068.7	0.0	277.3
8-Feb-01	1051.1	2.0	277.5	216.3	0.0	55.4	1045.8	0.0	240.9
9-Feb-01	1488.1	1.9	340.0	128.0	0.0	36.5	1403.9	0.0	283.2
10-Feb-01	1133.7	1.8	365.3	675.0	0.0	40.8	1115.5	0.0	359.8
11-Feb-01	1109.5	1.8	333.7	617.3	0.0	44.7	1111.4	0.0	323.4
12-Feb-01	1133.4	1.9	309.8	627.2	0.0	52.7	1148.9	0.0	288.0
13-Feb-01	1113.5	1.9	357.8	658.2	0.0	65.0	1104.3	0.0	331.1
14-Feb-01	1127.1	2.0	363.1	680.4	0.1	90.6	1113.4	0.0	356.6
15-Feb-01	1112.8	0.0	354.5	951.6	0.0	96.5	1101.6	0.0	350.4

Solar Radiation (Incoming) - Daily Maximum, Minimum and Averages Feedlot A (cont.)

Date	Feedlot A External			Shaded Pen (A5)			Unshaded Pen (A6)		
	Max (°C)	Min (°C)	Ave (°C)	Max (°C)	Min (°C)	Ave (°C)	Max (°C)	Min (°C)	Ave (°C)
16-Feb-01				202.7	0.7	47.1	1356.6	0.2	209.3
17-Feb-01				163.0	0.9	44.5	693.4	0.3	192.5
18-Feb-01	880.1	0.0	215.5	636.7	1.4	60.6	948.5	1.0	206.5
19-Feb-01	1248.3	0.0	337.2	709.9	1.1	83.8	1215.0	0.2	359.6
20-Feb-01	1382.3	0.0	275.2	827.4	1.0	72.0	897.2	0.1	248.7
21-Feb-01	1235.8	1.1	263.0	1082.0	0.9	105.7	1194.2	0.0	232.9
22-Feb-01	1135.5	1.1	348.2	977.7	0.7	104.7	1168.9	0.0	353.7
23-Feb-01	1110.1	1.1	349.6	1051.9	0.9	127.4	1076.7	0.0	337.7
24-Feb-01	1127.9	1.0	351.4	1054.9	0.7	132.5	1090.1	0.0	338.9
25-Feb-01	1123.4	1.1	348.7	1043.3	0.9	133.6	1080.6	0.0	334.0
26-Feb-01	1080.6	1.0	337.2	1003.9	0.7	129.2	1040.8	0.0	322.9
27-Feb-01	1082.1	1.0	337.2	1001.4	0.7	127.3	1037.0	0.0	321.3
28-Feb-01	1081.9	1.1	336.8	1010.8	1.1	128.1	1042.0	0.0	321.9
1-Mar-01	1140.0	1.2	336.9	933.4	1.3	108.3	1114.5	0.0	306.4
2-Mar-01	1173.4	1.2	330.2	998.9	1.4	136.3	1169.6	0.0	320.4
3-Mar-01	932.5	1.4	205.5	169.5	2.0	47.5	688.9	1.0	186.4
4-Mar-01	1120.4	1.3	331.7	793.6	2.0	111.0	1094.1	0.9	302.5
5-Mar-01	1165.5	1.3	295.9	809.3	1.9	80.2	1195.8	0.7	295.9
6-Mar-01	1094.0	1.4	233.7	822.8	2.2	73.1	1019.4	1.1	192.0
7-Mar-01	1214.0	1.3	277.8	129.0	2.0	37.1	1201.4	0.7	286.2
8-Mar-01	963.4	1.3	213.4	141.0	1.9	47.3	926.3	0.6	191.1
9-Mar-01	520.5	1.4	131.0	129.1	2.4	36.1	502.7	1.3	127.2
10-Mar-01	1238.0	1.5	228.4	700.7	2.7	53.2	1189.7	1.8	212.9
11-Mar-01	1105.9	1.5	231.8	126.7	2.6	34.3	1088.3	1.6	216.1
12-Mar-01	1214.3	1.5	254.6	129.2	2.8	28.0	1144.3	1.8	210.5
13-Mar-01	1045.7	1.4	285.8	794.8	2.2	47.4	998.3	0.9	294.5
14-Mar-01	1110.9	1.6	254.6	740.8	2.9	55.3	1119.8	1.9	228.5
15-Mar-01	1031.6	1.6	311.8	761.7	3.0	51.5	996.3	2.0	270.2
16-Mar-01	1115.8	1.6	262.6	644.6	3.0	58.8	1159.2	2.0	294.6
17-Mar-01	984.4	1.4	242.8	309.3	2.3	48.1	1117.9	0.7	276.3
18-Mar-01	970.1	1.5	226.7	280.4	2.7	44.0	967.9	1.4	207.8
19-Mar-01	1039.7	1.4	285.6	170.6	2.5	33.9	1113.5	1.1	270.3
20-Mar-01	1189.4	0.0	257.1	314.2	2.8	47.8	958.1	1.6	216.2
21-Mar-01	587.5	1.7	119.7	133.9	3.5	35.7	450.5	2.6	108.9
22-Mar-01	1063.9	1.6	242.8	179.8	3.3	31.7	1007.7	2.0	285.4
23-Mar-01	1030.8	1.5	307.6	177.3	3.0	24.3	991.3	1.7	295.9
24-Mar-01	1128.7	1.4	181.1	205.8	2.7	32.4	1099.7	1.1	176.5
25-Mar-01	1157.3	1.4	211.9	519.8	2.6	43.2	1134.5	0.9	214.6
26-Mar-01	564.5	1.5	125.0	156.3	3.0	33.3	908.5	1.6	148.6
27-Mar-01	959.7	1.6	252.8	626.4	3.3	51.7	916.9	2.1	261.6
28-Mar-01	1058.5	1.6	254.2	165.7	3.4	35.4	1037.3	2.2	219.1
29-Mar-01	1084.4	1.8	298.9	680.2	3.9	50.9	1054.4	3.1	262.8
30-Mar-01	1114.3	1.8	204.6	132.1	4.2	28.3	1154.9	3.4	175.7
31-Mar-01	1097.4	1.9	284.0	743.8	4.4	56.4	1078.7	3.7	247.4

Solar Radiation (Outgoing) - Daily Maximum, Minimum and Averages Feedlot A

Date	Feedlot A External			Shaded Pen (A5)			Unshaded Pen (A6)		
	Max (°C)	Min (°C)	Ave (°C)	Max (°C)	Min (°C)	Ave (°C)	Max (°C)	Min (°C)	Ave (°C)
1-Jan-01	272.1	0.5	59.2						
2-Jan-01	188.8	0.5	73.2						
3-Jan-01	185.9	0.5	69.3						
4-Jan-01	179.2	0.5	67.4						
5-Jan-01	172.5	0.5	66.8						
6-Jan-01	140.4	0.5	37.8						
7-Jan-01	182.6	0.4	60.7						
8-Jan-01	160.8	0.4	47.2						
9-Jan-01	172.6	0.4	42.8						
10-Jan-01	187.0	0.5	56.4						
11-Jan-01	187.0	0.4	50.3						
12-Jan-01	186.9	0.4	47.0						
13-Jan-01	173.9	0.4	61.6						
14-Jan-01	164.7	0.4	54.2						
15-Jan-01	161.5	0.2	56.4	23.1	0.0	5.9			
16-Jan-01	140.4	0.2	49.3	34.5	0.0	12.4	206.7	0.0	67.4
17-Jan-01	152.1	0.2	40.6	34.5	0.0	9.5	211.7	0.0	57.3
18-Jan-01	126.4	0.2	38.2	20.6	0.0	8.6	89.5	0.0	28.7
19-Jan-01	163.0	0.2	51.7	40.6	0.0	8.8	134.2	0.0	35.8
20-Jan-01	152.0	0.2	42.2	36.6	0.0	8.3	188.3	0.0	49.4
21-Jan-01	166.0	0.2	40.0	28.1	0.0	8.8	196.2	0.0	44.5
22-Jan-01	162.2	0.2	54.5	33.7	0.0	12.0	187.9	0.0	56.7
23-Jan-01	157.1	0.2	49.3	31.0	0.0	11.5	197.0	0.0	55.1
24-Jan-01	149.4	0.2	53.8	29.8	0.0	10.9	189.5	0.0	62.0
25-Jan-01	163.5	0.2	56.2	34.0	0.0	13.0	200.0	0.0	64.3
26-Jan-01	170.9	0.2	42.2	28.5	0.0	7.0	202.3	0.0	40.2
27-Jan-01	148.8	0.1	46.6	31.5	0.0	9.2	223.6	0.0	57.3
28-Jan-01	132.2	0.2	37.5	36.8	0.0	8.9	115.0	0.0	28.5
29-Jan-01	134.5	0.2	32.5	35.6	0.0	9.4	102.3	0.0	21.9
30-Jan-01	149.8	0.2	36.1	31.2	0.0	6.8	82.0	0.0	19.4
31-Jan-01	115.3	0.2	25.2	19.5	0.0	4.9	131.7	0.0	16.2
1-Feb-01	103.8	0.3	26.0	27.4	0.0	6.9	52.1	0.0	13.6
2-Feb-01	89.1	0.3	24.2	20.3	0.0	6.3	41.3	0.0	13.0
3-Feb-01	159.5	0.2	33.7	26.6	0.0	7.0	126.2	0.0	19.8
4-Feb-01	231.6	0.2	58.4	42.5	0.0	10.9	102.8	0.0	25.0
5-Feb-01	222.1	0.2	71.4	42.9	0.0	10.9	108.6	0.0	28.7
6-Feb-01	267.3	0.3	71.9	38.6	0.0	10.5	106.2	0.0	28.8
7-Feb-01	216.5	0.2	57.0	38.9	0.0	7.9	106.8	0.0	26.3
8-Feb-01	204.6	0.5	53.9	47.9	0.0	10.4	132.4	0.0	26.8
9-Feb-01	286.3	0.0	66.5	45.0	0.0	11.1	167.7	0.0	33.2
10-Feb-01	198.8	0.1	69.4	41.2	0.0	11.9	138.4	0.0	44.4
11-Feb-01	194.5	0.0	61.6	42.1	0.0	10.8	143.9	0.0	41.2
12-Feb-01	198.3	0.0	58.5	42.5	0.0	11.6	161.8	0.0	40.7
13-Feb-01	192.3	0.0	67.8	39.1	0.0	12.1	150.1	0.0	45.1
14-Feb-01	194.3	0.0	68.1	48.6	0.0	12.4	155.2	0.0	49.7
15-Feb-01	191.8	0.0	66.8	40.5	0.0	12.0	155.4	0.0	50.2

Solar Radiation (Outgoing) - Daily Maximum, Minimum and Averages Feedlot A (cont.)

Date	Feedlot A External			Shaded Pen (A5)			Unshaded Pen (A6)		
	Max (°C)	Min (°C)	Ave (°C)	Max (°C)	Min (°C)	Ave (°C)	Max (°C)	Min (°C)	Ave (°C)
16-Feb-01				37.7	0.2	8.5	206.4	0.0	29.2
17-Feb-01				43.0	0.1	9.9	92.8	0.0	26.8
18-Feb-01	163.0	0.0	40.7	34.1	0.6	8.4	133.1	0.0	28.8
19-Feb-01	223.0	0.0	62.8	42.9	0.1	10.9	180.3	0.0	50.9
20-Feb-01	276.5	0.0	59.7	35.0	0.0	11.3	135.0	0.0	36.2
21-Feb-01	242.5	0.2	55.2	45.0	0.0	11.5	175.8	0.0	34.4
22-Feb-01	215.0	0.2	73.6	50.5	0.0	13.4	174.8	0.0	52.4
23-Feb-01	205.5	0.2	72.4	35.2	0.0	12.8	159.9	0.0	49.8
24-Feb-01	211.4	0.2	72.6	42.3	0.0	13.8	168.3	0.0	52.4
25-Feb-01	212.3	0.2	72.5	40.0	0.0	13.1	166.3	0.0	52.5
26-Feb-01	203.6	0.2	69.9	34.6	0.0	12.3	164.8	0.0	51.6
27-Feb-01	204.1	0.2	69.8	36.0	0.0	11.2	166.8	0.0	52.2
28-Feb-01	206.8	0.3	70.5	39.1	0.0	11.8	167.4	0.0	52.4
1-Mar-01	232.0	0.3	69.3	32.8	0.0	11.4	183.8	0.0	50.5
2-Mar-01	229.4	0.4	69.0	30.0	0.0	9.3	192.3	0.0	52.7
3-Mar-01	182.6	0.7	42.5	21.1	0.2	6.7	99.8	0.0	26.4
4-Mar-01	212.0	0.8	67.3	44.0	0.2	13.8	166.9	0.0	45.6
5-Mar-01	224.5	0.5	60.5	47.0	0.1	11.8	194.0	0.0	46.9
6-Mar-01	229.1	0.8	50.2	58.6	0.3	10.8	172.1	0.0	31.2
7-Mar-01	241.4	0.8	60.1	42.7	0.1	11.1	202.9	0.0	48.1
8-Mar-01	191.8	0.6	46.3	39.5	0.0	10.2	159.9	0.0	30.6
9-Mar-01	110.0	0.9	27.9	19.6	0.3	6.6	76.0	0.0	18.9
10-Mar-01	256.6	1.1	49.0	29.1	0.7	8.1	183.5	0.0	29.1
11-Mar-01	207.9	1.0	45.6	37.2	0.7	8.0	162.7	0.0	30.1
12-Mar-01	216.1	0.9	48.7	56.7	0.0	8.2	106.2	0.0	19.1
13-Mar-01	169.9	0.7	51.3	28.0	0.1	8.1	76.6	0.0	23.4
14-Mar-01	195.4	1.1	49.3	63.3	0.8	10.1	106.0	0.0	21.8
15-Mar-01	173.6	1.1	58.9	65.0	0.7	10.9	121.0	0.0	32.7
16-Mar-01	188.9	1.2	50.2	69.0	0.8	10.8	161.9	0.0	40.9
17-Mar-01	173.7	0.8	46.1	25.7	0.0	8.3	165.0	0.0	41.0
18-Mar-01	174.0	1.0	42.9	59.8	0.5	9.7	147.2	0.0	31.7
19-Mar-01	175.7	1.0	53.2	80.3	0.3	12.3	172.9	0.0	42.9
20-Mar-01	274.8	0.4	63.2	75.2	0.6	11.3	153.9	0.0	33.8
21-Mar-01	113.0	1.4	23.8	24.4	1.1	5.8	64.1	0.0	15.5
22-Mar-01	167.3	1.3	41.1	72.8	0.8	10.5	81.4	0.0	23.8
23-Mar-01	161.3	1.1	51.9	72.5	0.6	11.0	98.2	0.0	29.0
24-Mar-01	185.6	1.0	33.5	18.5	0.2	5.5	144.3	0.0	22.4
25-Mar-01	186.5	0.9	37.5	29.0	0.1	6.8	164.5	0.0	34.6
26-Mar-01	90.6	1.2	21.1	21.2	0.4	5.6	77.7	0.0	12.7
27-Mar-01	148.2	1.5	44.0	60.8	0.7	8.8	75.7	0.0	22.1
28-Mar-01	179.1	1.5	48.8	62.7	0.8	9.8	113.6	0.0	24.1
29-Mar-01	189.1	1.8	57.0	58.2	1.4	10.7	136.0	0.0	33.4
30-Mar-01	191.7	2.0	38.8	25.8	1.5	6.9	154.0	0.0	23.6
31-Mar-01	193.3	2.1	56.3	63.8	1.7	11.9	153.2	0.0	35.8

Air Temperature - Daily Maximum, Minimum and Averages

Feedlot B

Date	Feedlot B External			Shaded Pen (B5)			Unshaded Pen (B6)		
	Max (°C)	Min (°C)	Ave (°C)	Max (°C)	Min (°C)	Ave (°C)	Max (°C)	Min (°C)	Ave (°C)
1-Jan-01									
2-Jan-01									
3-Jan-01									
4-Jan-01									
5-Jan-01									
6-Jan-01									
7-Jan-01									
8-Jan-01									
9-Jan-01	31.070	21.825	27.686	31.188	22.512	28.417	31.542	22.374	28.431
10-Jan-01	32.012	16.342	24.491	32.514	17.092	24.949	31.908	16.698	24.515
11-Jan-01	35.398	19.182	28.647	35.844	20.638	28.653	35.908	20.044	28.424
12-Jan-01	39.266	25.112	31.326	40.272	23.406	31.264	39.952	23.846	31.206
13-Jan-01	35.942	21.511	28.937	36.550	21.834	29.197	36.526	21.532	28.922
14-Jan-01	39.286	20.225	30.060	39.348	20.696	30.543	39.360	20.174	30.367
15-Jan-01	39.388	21.107	31.706	39.860	20.824	31.772	40.014	20.616	31.580
16-Jan-01	31.671	13.083	23.452	31.838	14.344	23.860	31.996	13.546	23.573
17-Jan-01	29.994	15.329	23.039	30.358	15.730	23.448	30.282	15.544	23.080
18-Jan-01	32.662	13.024	23.483	32.446	14.584	24.213	32.492	14.146	23.832
19-Jan-01	32.013	18.145	25.343	32.472	18.772	25.947	32.232	18.044	25.445
20-Jan-01	32.607	19.797	26.573	33.244	20.778	26.755	32.924	20.176	26.432
21-Jan-01	31.807	23.325	28.035	32.400	21.348	27.855	32.058	21.144	27.746
22-Jan-01	39.619	26.333	32.623	40.374	26.872	33.059	40.536	26.606	32.800
23-Jan-01	43.100	27.183	35.582	43.450	28.508	36.308	43.132	28.256	36.144
24-Jan-01	40.263	24.811	33.315	40.066	25.110	33.651	40.338	24.810	33.579
25-Jan-01	34.837	22.519	28.127	34.940	23.152	28.696	35.002	22.848	28.472
26-Jan-01	34.819	21.963	26.562	34.876	22.384	27.063	34.520	22.324	26.776
27-Jan-01	29.691	20.624	24.624	29.922	20.678	25.121	30.004	20.876	24.711
28-Jan-01	28.527	15.727	22.389	28.972	15.988	22.790	28.812	15.674	22.547
29-Jan-01	31.013	16.638	24.133	31.768	17.092	24.590	31.748	17.050	24.336
30-Jan-01	31.647	17.047	24.106	31.814	17.286	24.282	32.308	16.972	24.146
31-Jan-01	30.141	18.441	24.513	31.046	19.288	25.191	30.688	18.764	24.655
1-Feb-01	32.209	18.833	24.947	32.916	19.452	25.510	32.416	18.986	25.059
2-Feb-01	34.791	19.028	26.939	35.332	19.662	27.417	35.396	19.156	27.049
3-Feb-01	35.838	21.254	28.868	35.592	21.936	29.446	35.844	21.376	29.176
4-Feb-01	33.894	24.655	28.473	34.280	24.974	29.155	34.064	24.850	28.789
5-Feb-01	28.037	21.230	24.896	28.702	21.818	25.600	28.170	21.310	25.192
6-Feb-01	28.629	19.318	23.821	28.820	19.540	24.042	28.798	19.106	23.682
7-Feb-01	32.241	19.205	25.973	32.750	19.854	26.506	32.754	19.382	25.646
8-Feb-01	34.766	22.491	28.662	35.020	23.616	29.389	35.396	23.222	28.976
9-Feb-01	36.808	24.040	28.500	36.860	25.650	29.096	36.508	25.228	28.860
10-Feb-01	29.848	19.146	23.959	30.458	19.502	24.557	30.152	19.054	24.151
11-Feb-01	32.079	14.053	23.974	32.472	14.584	24.160	32.466	14.166	23.758
12-Feb-01	35.547	19.052	28.146	35.960	19.676	28.646	35.670	19.532	28.262
13-Feb-01	33.070	22.090	26.001	33.694	22.568	26.651	33.072	22.148	25.959
14-Feb-01	25.195	15.139	19.688	25.778	15.318	20.316	25.228	14.840	19.832
15-Feb-01	25.062	13.604	19.010	25.110	13.944	19.208	25.130	13.286	18.703

Air Temperature - Daily Maximum, Minimum and Averages

Feedlot B (cont.)

Date	Feedlot B External			Shaded Pen (B5)			Unshaded Pen (B6)		
	Max (°C)	Min (°C)	Ave (°C)	Max (°C)	Min (°C)	Ave (°C)	Max (°C)	Min (°C)	Ave (°C)
16-Feb-01	27.457	14.797	20.672	27.742	15.674	21.292	27.606	15.028	20.754
17-Feb-01	28.470	13.938	21.564	28.726	15.584	22.454	28.342	14.878	21.861
18-Feb-01	30.313	16.137	23.184	30.844	17.798	24.027	30.294	17.150	23.407
19-Feb-01	31.563	17.879	24.782	32.082	19.054	25.475	31.538	18.494	25.104
20-Feb-01	30.545	17.140	24.257	31.284	18.312	25.072	30.756	17.742	24.458
21-Feb-01	30.987	17.484	24.657	31.412	18.512	25.207	31.160	17.826	24.785
22-Feb-01	34.444	20.272	27.622	35.114	21.488	28.355	35.006	20.932	28.030
23-Feb-01	36.734	21.072	29.016	36.828	22.418	29.467	37.054	21.956	29.193
24-Feb-01	34.331	19.952	26.844	34.778	20.626	27.256	34.546	20.324	26.939
25-Feb-01	27.058	18.888	23.330	27.254	20.324	23.914	27.066	19.816	23.545
26-Feb-01	31.231	17.197	24.890	31.554	18.594	25.750	30.908	18.574	25.448
27-Feb-01	36.872	22.573	28.589	36.616	22.564	29.022	36.742	22.828	28.862
28-Feb-01	29.583	19.231	24.654	30.102	19.660	25.064	29.494	19.988	24.708
1-Mar-01	32.166	12.639	23.154	32.890	13.364	23.592	32.416	13.272	23.192
2-Mar-01	31.819	16.335	24.085	32.404	15.644	24.543	32.424	15.426	24.135
3-Mar-01	31.437	18.086	24.865	32.082	18.786	25.584	31.702	18.180	25.091
4-Mar-01	30.986	18.788	24.988	31.876	19.630	25.609	31.526	19.126	25.063
5-Mar-01	29.140	17.082	22.911	29.800	18.000	23.496	29.726	17.430	23.061
6-Mar-01	29.698	15.335	22.735	30.070	16.390	23.341	30.042	15.844	22.786
7-Mar-01	30.546	16.588	23.784	30.982	17.540	24.438	30.482	16.944	23.882
8-Mar-01	31.583	17.165	24.470	31.862	18.256	25.046	32.220	17.610	24.560
9-Mar-01	31.073	18.211	24.117	31.904	18.808	24.617	31.318	18.260	24.189
10-Mar-01	32.717	18.110	25.623	33.312	18.844	25.966	32.580	18.246	25.476
11-Mar-01	33.919	20.438	27.267	34.338	21.864	27.935	34.160	21.312	27.527
12-Mar-01	23.521	14.883	20.439	24.180	15.138	21.068	23.644	14.570	20.577
13-Mar-01	22.416	8.853	15.947	23.648	9.700	16.633	23.012	8.616	15.828
14-Mar-01	27.205	12.061	19.569	27.592	9.302	19.518	27.300	8.780	18.996
15-Mar-01	30.399	16.187	23.236	30.454	17.392	23.820	30.318	16.758	23.377
16-Mar-01	29.054	18.050	22.677	29.262	18.820	23.387	29.178	18.098	22.968
17-Mar-01	19.605	11.591	14.978	20.238	12.074	15.363	19.774	11.452	14.752
18-Mar-01	20.794	10.233	15.915	20.874	10.772	16.280	20.578	10.256	15.732
19-Mar-01	24.623	10.621	17.784	25.334	11.566	18.460	25.448	10.872	17.953
20-Mar-01	25.713	14.710	20.575	26.382	16.124	21.389	26.154	15.616	20.853
21-Mar-01	21.194	10.473	15.740	21.718	10.822	16.263	21.258	10.456	15.760
22-Mar-01	16.284	10.117	13.224	16.766	10.774	13.853	16.234	9.832	13.171
23-Mar-01	21.574	14.078	17.096	21.926	14.692	17.630	21.508	14.166	17.147
24-Mar-01	26.696	16.230	20.673	26.584	17.022	21.130	26.350	16.442	20.730
25-Mar-01	23.417	13.453	18.230	23.840	14.424	19.136	23.524	13.960	18.528
26-Mar-01	20.589	10.996	15.722	20.832	12.068	16.499	20.594	11.534	15.905
27-Mar-01	20.541	10.927	15.079	20.824	12.298	15.941	20.420	11.162	15.109
28-Mar-01	19.784	7.887	13.600	20.842	8.972	14.435	19.920	7.644	13.421
29-Mar-01	21.919	6.490	14.697	22.392	7.410	14.932	22.268	7.044	14.644
30-Mar-01	25.391	10.957	18.305	25.626	12.054	18.675	25.348	11.468	18.366
31-Mar-01	27.488	13.347	20.570	27.662	14.318	20.852	27.074	13.938	20.698

Black Globe Temperature - Daily Maximum, Minimum and Averages Feedlot B

Date	Feedlot B External			Shaded Pen (B5)			Unshaded Pen (B6)		
	Max (°C)	Min (°C)	Ave (°C)	Max (°C)	Min (°C)	Ave (°C)	Max (°C)	Min (°C)	Ave (°C)
1-Jan-01									
2-Jan-01									
3-Jan-01									
4-Jan-01									
5-Jan-01									
6-Jan-01									
7-Jan-01									
8-Jan-01									
9-Jan-01				34.808	22.536	30.429			
10-Jan-01				35.742	16.998	26.661			
11-Jan-01				38.938	20.234	30.346			
12-Jan-01				42.036	23.210	32.265			
13-Jan-01				38.414	22.000	30.643			
14-Jan-01				42.204	20.520	31.985			
15-Jan-01				41.566	20.924	32.422			
16-Jan-01				35.978	14.174	25.938			
17-Jan-01				32.522	15.790	24.708			
18-Jan-01	42.951	23.277	33.716	35.196	14.572	25.473			
19-Jan-01	41.934	17.543	29.180	35.132	18.624	27.437	41.032	23.096	32.904
20-Jan-01	45.932	19.332	30.984	36.766	20.606	28.520	43.712	19.668	30.267
21-Jan-01	37.108	21.188	28.890	34.042	21.156	28.248	36.456	20.246	28.599
22-Jan-01	49.140	25.676	34.908	42.328	26.786	33.418	48.696	25.716	34.241
23-Jan-01	50.843	25.982	38.721	44.780	27.996	36.897	49.726	26.994	38.129
24-Jan-01	52.029	24.480	36.058	42.666	25.022	34.140	49.112	24.272	35.399
25-Jan-01	44.128	21.595	31.299	37.112	21.990	29.428	44.056	21.618	31.157
26-Jan-01	42.958	21.700	28.448	37.160	22.052	27.508	42.688	21.840	28.138
27-Jan-01	36.773	19.035	27.859	32.286	19.850	26.806	37.322	19.006	27.583
28-Jan-01	37.719	15.366	25.508	32.116	16.140	24.180	38.868	15.548	25.522
29-Jan-01	40.626	14.927	27.881	34.560	17.680	26.172	40.858	16.302	28.018
30-Jan-01	39.098	16.653	26.415	34.466	17.392	25.311	41.512	16.848	26.593
31-Jan-01	42.754	17.920	28.714	35.168	19.114	26.604	40.318	18.328	28.121
1-Feb-01	40.506	18.334	28.230	35.228	19.254	26.690	39.968	18.608	27.851
2-Feb-01	42.901	18.585	30.577	37.736	19.436	28.687	41.944	18.784	29.984
3-Feb-01	45.140	20.851	32.183	38.640	21.786	30.557	43.998	21.058	31.923
4-Feb-01	46.029	25.190	31.137	37.466	25.564	29.812	43.438	25.708	30.872
5-Feb-01	37.105	21.173	26.550	32.400	21.770	26.059	40.142	21.222	26.861
6-Feb-01	37.223	19.350	26.586	31.904	19.518	24.942	35.556	19.240	26.003
7-Feb-01	43.667	18.901	30.280	36.358	19.800	28.054	43.354	19.154	29.959
8-Feb-01	47.431	21.874	33.236	38.884	23.416	30.890	47.940	23.076	33.789
9-Feb-01	43.973	23.903	30.605	39.596	24.716	29.648	42.242	24.698	30.386
10-Feb-01	39.433	17.464	26.193	33.672	19.100	25.470	37.736	17.352	26.187
11-Feb-01	45.465	11.573	28.608	36.154	14.192	26.091	44.408	13.044	28.058
12-Feb-01	47.179	17.725	31.946	39.464	19.244	29.885	45.422	18.062	31.493
13-Feb-01	42.257	21.064	29.026	36.822	22.316	27.868	40.654	21.670	28.463
14-Feb-01	30.888	14.808	20.631	27.930	15.240	20.772	31.216	14.874	21.008
15-Feb-01	30.961	12.945	21.946	27.886	13.798	20.714	31.318	13.122	21.555

Black Globe Temperature - Daily Maximum, Minimum and Averages Feedlot B (cont.)

Date	Feedlot B External			Shaded Pen (B5)			Unshaded Pen (B6)		
	Max (°C)	Min (°C)	Ave (°C)	Max (°C)	Min (°C)	Ave (°C)	Max (°C)	Min (°C)	Ave (°C)
16-Feb-01	36.463	14.005	24.172	30.752	15.380	22.757	36.988	14.496	23.921
17-Feb-01	37.774	13.510	25.506	31.604	15.476	23.960	36.714	14.480	25.167
18-Feb-01	41.797	15.413	27.547	33.820	17.650	25.679	40.994	16.570	26.993
19-Feb-01	43.362	17.513	29.236	35.504	18.930	27.163	44.476	18.154	29.156
20-Feb-01	40.251	16.180	28.250	33.982	18.072	26.586	39.348	16.774	28.171
21-Feb-01	44.347	16.947	29.195	35.410	18.298	26.817	41.262	17.478	28.464
22-Feb-01	46.701	19.614	32.256	38.178	21.282	30.151	45.934	20.310	32.283
23-Feb-01	45.608	20.500	32.408	39.132	22.380	30.547	44.038	21.602	31.840
24-Feb-01	45.184	18.690	30.176	37.456	20.258	28.338	45.492	19.034	30.001
25-Feb-01	30.770	18.114	24.726	31.566	20.190	24.723	32.538	19.020	25.074
26-Feb-01	41.160	16.494	27.754	34.350	18.482	26.781	42.322	17.642	28.157
27-Feb-01	45.928	22.124	31.472	38.576	22.652	29.984	45.628	22.316	31.273
28-Feb-01	37.099	17.923	27.647	32.220	19.520	26.422	36.196	18.474	27.683
1-Mar-01	45.126	11.872	27.835	35.656	13.236	25.478	44.578	13.582	27.655
2-Mar-01	40.316	15.118	27.901	35.020	15.738	26.247	40.292	14.302	27.786
3-Mar-01	45.485	17.675	28.765	36.418	18.688	27.056	45.522	17.906	28.649
4-Mar-01	43.947	18.034	29.071	35.228	19.480	27.121	45.492	18.698	28.850
5-Mar-01	39.330	16.506	26.414	33.408	17.850	24.807	38.600	17.072	26.370
6-Mar-01	41.463	14.513	26.806	33.112	16.250	24.884	39.948	15.172	25.982
7-Mar-01	39.822	15.909	27.468	33.698	17.476	25.863	39.586	16.580	26.863
8-Mar-01	40.154	16.252	28.013	34.400	18.100	26.355	39.866	16.990	27.691
9-Mar-01	39.724	17.656	27.348	33.942	18.626	25.759	39.112	17.830	27.022
10-Mar-01	46.832	17.661	30.063	37.070	18.822	27.489	44.538	18.038	29.274
11-Mar-01	46.685	19.899	31.176	38.198	21.792	29.276	44.304	21.038	30.837
12-Mar-01	29.105	14.371	22.284	26.036	14.956	21.800	29.524	14.020	22.440
13-Mar-01	32.349	8.055	19.433	28.688	9.220	18.280	33.068	7.952	19.220
14-Mar-01	40.563	10.729	24.444	32.576	9.654	21.590	41.380	8.240	23.574
15-Mar-01	43.223	15.253	26.297	33.916	17.144	24.922	37.418	16.260	25.848
16-Mar-01	34.828	18.065	23.858	30.422	18.494	23.697	33.374	18.206	23.934
17-Mar-01	25.358	11.333	17.103	21.008	11.616	16.199	24.282	11.346	16.988
18-Mar-01	26.261	9.604	17.592	23.048	10.596	17.193	26.320	9.500	17.687
19-Mar-01	38.333	10.157	23.206	32.228	11.614	20.982	37.164	10.594	23.315
20-Mar-01	35.971	14.034	24.268	30.676	15.888	22.902	34.012	15.000	24.179
21-Mar-01	28.004	10.315	17.519	21.590	10.626	16.773	24.476	10.600	17.300
22-Mar-01	25.454	10.082	14.911	19.244	10.618	14.425	23.958	10.192	15.072
23-Mar-01	33.126	13.719	20.700	27.348	14.862	19.124	32.266	14.284	20.759
24-Mar-01	34.196	16.055	22.126	28.612	17.058	21.641	33.352	16.622	22.262
25-Mar-01	33.888	12.787	21.052	27.816	14.372	20.660	35.844	13.326	21.789
26-Mar-01	28.651	10.191	17.936	23.028	12.132	17.776	27.824	11.044	18.233
27-Mar-01	27.487	9.871	17.479	23.032	12.398	17.370	28.888	10.778	17.886
28-Mar-01	27.041	7.189	16.340	24.870	8.736	15.888	28.338	7.196	16.690
29-Mar-01	34.492	4.906	19.167	28.306	7.578	17.097	35.678	6.022	19.707
30-Mar-01	39.533	10.094	22.384	36.080	11.864	21.707	37.466	11.272	22.483
31-Mar-01	40.810	12.203	24.695	38.486	13.216	23.773	40.236	13.200	24.972

Ground Temperature - Daily Maximum, Minimum and Averages Feedlot B

Date	Feedlot B External			Shaded Pen (B5)			Unshaded Pen (B6)		
	Max (°C)	Min (°C)	Ave (°C)	Max (°C)	Min (°C)	Ave (°C)	Max (°C)	Min (°C)	Ave (°C)
1-Jan-01									
2-Jan-01									
3-Jan-01									
4-Jan-01									
5-Jan-01									
6-Jan-01									
7-Jan-01									
8-Jan-01									
9-Jan-01	37.903	33.342	36.018	22.972	17.304	20.819	43.662	36.794	40.746
10-Jan-01	38.259	30.660	34.249	23.188	14.022	18.392	44.934	32.602	38.071
11-Jan-01	39.377	31.141	34.963	24.770	15.454	20.058	45.904	33.920	39.501
12-Jan-01	39.081	32.522	35.683	24.786	17.300	20.356	45.282	35.702	39.777
13-Jan-01	39.326	32.659	35.826	24.466	17.166	20.839	47.064	35.546	40.650
14-Jan-01	40.145	32.609	36.052	26.200	15.564	20.790	47.712	35.364	40.708
15-Jan-01	40.158	34.467	37.118	26.290	17.512	22.016	48.244	37.828	41.737
16-Jan-01	38.887	31.610	35.277	24.638	14.480	19.372	46.648	33.802	39.324
17-Jan-01	37.184	31.382	34.421	22.624	15.062	18.296	44.084	33.252	37.763
18-Jan-01	37.927	30.087	33.153	24.326	13.866	18.917	42.360	32.584	36.791
19-Jan-01	36.186	28.064	31.838	24.458	15.326	19.206	36.274	33.798	34.791
20-Jan-01	37.228	28.390	32.388	25.582	16.192	20.305			
21-Jan-01	32.137	29.172	30.622	20.870	16.850	18.847			
22-Jan-01	35.623	28.785	31.612	25.052	18.516	21.031			
23-Jan-01	38.706	29.717	33.966	28.752	19.120	23.880			
24-Jan-01	37.446	32.282	34.555	26.126	20.072	23.327			
25-Jan-01	35.991	29.752	32.556	23.026	17.336	20.154			
26-Jan-01	33.854	28.904	30.728	20.714	15.970	18.033			
27-Jan-01	34.685	26.486	29.888	19.398	14.132	16.510			
28-Jan-01	34.890	23.977	29.021	19.888	11.782	15.733			
29-Jan-01	35.165	24.156	29.364	21.748	12.962	17.062			
30-Jan-01	33.578	25.512	29.056	20.912	13.990	16.967			
31-Jan-01	34.599	25.791	29.909	21.244	14.442	17.421			
1-Feb-01	34.648	26.228	30.090	21.220	14.262	17.185			
2-Feb-01	35.365	26.444	30.615	21.936	14.382	17.837			
3-Feb-01	35.473	27.876	31.596	22.176	16.078	19.209			
4-Feb-01	34.805	29.884	31.746	22.656	18.654	19.914			
5-Feb-01	30.602	26.681	29.097	19.078	15.192	17.328			
6-Feb-01	31.107	23.807	26.937	17.334	12.912	14.793			
7-Feb-01	35.240	24.281	29.313	20.666	13.214	16.679			
8-Feb-01	35.714	26.790	30.797	22.340	15.958	18.888			
9-Feb-01	32.332	26.742	28.868	20.720	17.030	18.386			
10-Feb-01	31.615	25.520	27.745	19.316	16.066	17.471			
11-Feb-01	33.709	21.882	27.484	20.578	13.862	16.902			
12-Feb-01	34.463	23.917	28.799	21.536	15.142	18.155			
13-Feb-01	33.136	26.365	29.197	21.664	17.264	19.000			
14-Feb-01	27.688	21.517	25.313	17.810	10.760	15.513			
15-Feb-01	28.248	19.096	23.018	14.454	10.948	12.434			

Ground Temperature - Daily Maximum, Minimum and Averages Feedlot B (cont.)

Date	Feedlot B External			Shaded Pen (B5)			Unshaded Pen (B6)		
	Max (°C)	Min (°C)	Ave (°C)	Max (°C)	Min (°C)	Ave (°C)	Max (°C)	Min (°C)	Ave (°C)
16-Feb-01	30.312	19.086	24.070	16.094	10.248	12.561			
17-Feb-01	31.063	20.163	25.192	16.906	10.770	13.485			
18-Feb-01	32.176	21.358	26.238	18.038	12.120	14.667			
19-Feb-01	32.079	22.350	26.877	18.656	12.920	15.391			
20-Feb-01	32.253	23.109	27.267	18.352	13.596	15.677			
21-Feb-01	33.053	23.424	27.786	19.174	13.680	16.078			
22-Feb-01	35.019	24.539	29.373	19.896	15.026	17.189	42.956	30.628	34.884
23-Feb-01	35.147	27.326	30.893	20.210	15.722	17.745	36.056	28.358	31.598
24-Feb-01	34.931	27.245	30.812	20.126	15.508	17.464	36.512	27.904	31.351
25-Feb-01	30.451	27.562	28.726	16.894	15.562	16.143	30.038	28.164	29.153
26-Feb-01	31.073	25.058	27.900	17.952	14.402	16.167	31.854	26.162	28.825
27-Feb-01	32.683	26.525	29.365	19.142	15.518	17.223	33.308	26.320	29.357
28-Feb-01	31.348	24.815	27.705	17.840	14.654	16.187	33.158	26.470	29.223
1-Mar-01	32.896	22.214	27.176	18.798	12.438	15.241	34.298	24.576	28.919
2-Mar-01	32.769	23.888	28.016	18.692	13.512	15.718	34.060	26.050	29.582
3-Mar-01	33.200	24.723	28.382	18.770	14.012	15.987	34.078	26.288	29.669
4-Mar-01	32.944	25.146	28.768	19.050	14.262	16.292	33.824	26.538	29.870
5-Mar-01	32.138	25.116	28.387	18.266	13.964	15.705	32.434	25.620	28.538
6-Mar-01	32.308	24.485	28.104	18.196	13.376	15.380	32.476	25.498	28.313
7-Mar-01	32.239	24.957	28.358	18.268	13.688	15.603	32.404	25.956	28.726
8-Mar-01	31.874	25.204	28.353	17.902	14.018	15.735	31.448	25.740	28.093
9-Mar-01	31.969	25.386	28.377	18.618	13.720	15.525	31.200	25.080	27.733
10-Mar-01	32.107	25.692	28.670	19.076	13.770	16.068	32.572	25.746	28.861
11-Mar-01	32.786	26.651	29.434	19.466	15.254	17.119	33.584	26.916	30.100
12-Mar-01	29.546	26.219	27.937	16.362	12.924	15.115	29.684	25.878	27.999
13-Mar-01	28.577	22.410	25.351	16.182	10.914	13.055	28.972	23.230	25.985
14-Mar-01	29.430	21.890	25.399	17.120	10.542	13.349	30.216	23.166	26.410
15-Mar-01	29.257	23.659	26.258	16.378	11.426	14.005	29.394	23.608	26.531
16-Mar-01	27.918	24.602	26.216	15.618	11.354	13.857	27.424	24.468	25.840
17-Mar-01	24.327	20.221	22.016	12.822	8.654	10.103	24.402	20.984	22.603
18-Mar-01	23.003	17.693	20.357	10.566	7.102	8.911	23.986	18.834	21.307
19-Mar-01	26.968	18.375	22.315	14.368	8.030	10.746	27.780	19.700	23.439
20-Mar-01	27.008	20.436	23.532	14.000	9.928	11.861	27.610	21.896	24.529
21-Mar-01	23.723	20.481	22.137	11.818	7.938	9.847	24.296	20.826	22.699
22-Mar-01	20.633	17.609	19.167	8.334	6.976	7.528	20.874	17.292	19.372
23-Mar-01	23.928	17.876	20.276	11.214	7.440	8.700	23.980	18.476	20.566
24-Mar-01	24.671	18.968	21.382	11.008	7.972	9.427	24.876	18.986	21.396
25-Mar-01	25.009	18.781	21.684	11.476	8.456	9.744	25.626	19.140	22.035
26-Mar-01	23.202	17.948	20.599	10.024	6.830	8.457	23.944	18.222	20.865
27-Mar-01	23.185	17.918	20.334	10.710	7.092	8.563	24.750	17.862	20.768
28-Mar-01	22.638	17.173	19.793	11.022	6.098	7.970	25.332	16.874	20.489
29-Mar-01	24.021	16.682	20.135	11.624	5.886	8.178	25.928	16.854	20.881
30-Mar-01	24.988	18.030	21.130	15.444	6.870	10.078	26.576	18.256	21.876
31-Mar-01	26.063	19.167	22.262	16.668	7.708	11.397	27.886	19.344	23.125

Humidity - Daily Maximum, Minimum and Averages Feedlot B

Date	Feedlot B External			Shaded Pen (B5)			Unshaded Pen (B6)		
	Max (°C)	Min (°C)	Ave (°C)	Max (°C)	Min (°C)	Ave (°C)	Max (°C)	Min (°C)	Ave (°C)
1-Jan-01									
2-Jan-01									
3-Jan-01									
4-Jan-01									
5-Jan-01									
6-Jan-01									
7-Jan-01									
8-Jan-01									
9-Jan-01	40.995	22.705	29.337	41.400	23.750	29.943	39.110	23.040	28.870
10-Jan-01	56.520	27.040	40.540	58.690	28.780	43.193	56.050	27.380	41.490
11-Jan-01	46.710	22.665	32.663	47.850	22.500	36.969	45.240	22.330	34.394
12-Jan-01	35.190	22.010	29.664	43.750	22.720	31.772	37.670	22.460	30.717
13-Jan-01	52.075	22.855	34.896	56.520	23.360	39.406	52.690	23.530	37.668
14-Jan-01	65.305	22.315	39.931	69.030	22.650	42.480	65.460	21.960	40.137
15-Jan-01	43.230	25.525	33.539	47.210	25.120	35.579	44.800	24.010	34.290
16-Jan-01	61.395	28.225	42.422	66.390	28.740	45.118	59.640	29.960	42.590
17-Jan-01	68.340	20.925	41.040	72.730	20.930	43.912	67.290	21.020	41.445
18-Jan-01	69.020	31.423	46.482	71.910	33.600	49.647	67.710	33.580	46.905
19-Jan-01	64.468	25.145	41.994	67.250	26.510	44.202	62.560	25.340	42.148
20-Jan-01	55.868	25.900	39.330	57.750	27.010	43.522	54.610	25.670	40.970
21-Jan-01	43.240	28.315	34.678	60.010	30.350	39.356	54.450	27.400	37.528
22-Jan-01	41.618	20.400	30.756	44.510	20.880	32.418	41.760	20.590	31.281
23-Jan-01	35.570	20.425	28.061	36.630	20.400	29.257	34.790	20.400	28.687
24-Jan-01	75.635	26.840	39.610	79.730	29.430	42.400	73.140	28.500	39.783
25-Jan-01	91.975	40.143	65.621	98.510	42.920	70.060	89.420	40.180	64.550
26-Jan-01	94.388	43.835	71.702	99.190	48.730	76.476	91.300	45.910	70.597
27-Jan-01	96.578	35.675	65.488	99.990	37.120	68.072	94.220	36.930	66.026
28-Jan-01	82.058	34.213	52.625	86.930	35.300	57.190	78.980	34.340	51.924
29-Jan-01	80.008	26.233	46.705	83.820	27.950	51.085	74.910	26.160	46.247
30-Jan-01	69.185	24.070	44.400	73.770	26.390	49.050	65.550	24.220	43.953
31-Jan-01	72.740	35.383	51.243	75.760	37.710	55.033	70.720	34.810	50.477
1-Feb-01	68.498	29.335	48.933	71.140	34.730	51.598	65.870	33.110	48.249
2-Feb-01	66.125	33.088	47.843	68.850	34.750	50.340	64.200	33.640	47.148
3-Feb-01	63.700	36.068	47.868	66.770	39.520	51.661	62.360	35.640	47.134
4-Feb-01	83.200	41.980	61.786	86.500	48.930	65.890	79.930	44.320	60.432
5-Feb-01	95.425	69.818	83.023	99.990	76.570	88.283	93.120	70.730	81.579
6-Feb-01	76.403	52.753	64.698	82.810	60.180	71.425	76.480	55.190	65.909
7-Feb-01	78.743	41.665	58.996	82.830	46.960	64.281	76.460	41.970	59.720
8-Feb-01	70.545	35.630	51.517	74.020	37.650	56.129	67.640	34.670	48.685
9-Feb-01	75.657	34.820	50.857	77.950	38.910	54.299	71.230	34.440	49.128
10-Feb-01	83.510	25.320	57.729	87.660	26.730	61.492	79.290	25.020	56.056
11-Feb-01	82.167	20.810	46.860	87.330	22.700	51.866	79.070	20.980	47.374
12-Feb-01	73.160	35.417	47.045	75.770	36.850	51.180	69.430	34.720	47.070
13-Feb-01	91.213	44.613	69.631	94.310	48.120	73.650	85.500	45.880	67.881
14-Feb-01	95.963	47.610	77.697	99.990	52.140	82.025	92.260	47.330	73.970
15-Feb-01	97.017	36.373	66.227	99.990	40.150	71.385	93.450	37.290	65.723

Humidity - Daily Maximum, Minimum and Averages

Feedlot B (cont.)

Date	Feedlot B External			Shaded Pen (B5)			Unshaded Pen (B6)		
	Max (°C)	Min (°C)	Ave (°C)	Max (°C)	Min (°C)	Ave (°C)	Max (°C)	Min (°C)	Ave (°C)
16-Feb-01	80.743	33.560	53.764	83.580	35.480	57.108	76.350	34.140	52.601
17-Feb-01	71.390	34.817	50.475	71.890	36.010	52.431	67.000	34.280	48.673
18-Feb-01	70.253	26.567	46.946	71.270	29.080	49.518	65.910	25.710	45.617
19-Feb-01	62.960	24.113	42.557	64.260	26.880	45.704	59.850	23.950	41.755
20-Feb-01	66.903	26.680	42.771	68.540	29.150	45.035	64.230	26.790	41.865
21-Feb-01	70.630	34.990	50.326	72.200	36.830	53.184	67.430	34.630	48.763
22-Feb-01	65.447	27.260	44.415	68.580	29.600	48.405	62.410	27.470	43.918
23-Feb-01	69.605	22.178	41.963	71.340	22.970	44.961	66.360	22.270	41.259
24-Feb-01	56.758	25.040	37.671	64.310	26.800	43.413	56.230	25.490	38.968
25-Feb-01	56.815	36.190	45.383	63.140	38.320	48.724	55.640	36.020	44.744
26-Feb-01	64.900	35.910	47.720	69.580	38.090	53.335	62.280	35.230	47.769
27-Feb-01	81.318	32.260	48.777	92.930	35.150	52.598	86.320	33.570	48.257
28-Feb-01	78.510	28.655	49.313	83.340	34.560	53.998	77.640	33.870	50.757
1-Mar-01	81.820	27.325	50.257	87.240	29.910	55.246	76.840	32.630	50.408
2-Mar-01	82.268	24.080	48.037	86.380	26.120	52.074	78.360	24.050	46.818
3-Mar-01	74.610	34.395	50.411	77.780	35.670	53.720	71.540	34.230	49.080
4-Mar-01	69.123	33.710	48.031	71.480	35.300	51.480	66.010	33.940	47.345
5-Mar-01	60.810	31.790	44.816	63.200	34.190	47.495	58.550	33.420	44.313
6-Mar-01	73.715	33.353	49.852	76.010	35.010	52.645	69.620	33.810	48.862
7-Mar-01	76.655	31.743	49.815	78.640	34.920	53.038	72.150	33.740	49.180
8-Mar-01	72.895	31.670	49.081	75.590	34.730	51.923	69.510	29.000	48.370
9-Mar-01	68.755	33.330	49.913	71.550	35.130	52.562	65.440	33.600	48.758
10-Mar-01	73.158	35.970	51.456	76.350	39.770	56.743	69.900	36.120	51.729
11-Mar-01	76.893	32.187	51.294	80.360	34.850	55.884	73.980	33.440	50.911
12-Mar-01	72.547	35.217	52.125	78.060	37.710	56.119	70.840	34.770	51.340
13-Mar-01	64.913	28.847	44.480	71.830	29.690	50.023	64.410	33.160	45.608
14-Mar-01	57.107	23.270	40.396	79.170	25.190	49.194	70.430	24.310	43.797
15-Mar-01	76.577	35.523	54.907	80.420	37.980	59.405	73.190	35.070	54.187
16-Mar-01	92.330	43.450	65.946	99.290	47.190	70.610	91.210	43.510	64.531
17-Mar-01	91.740	49.680	71.408	99.310	56.120	78.902	90.260	53.480	72.697
18-Mar-01	84.000	52.637	67.549	90.560	61.530	75.679	82.790	56.990	68.937
19-Mar-01	94.793	42.647	67.737	99.990	47.050	75.498	92.860	44.340	68.554
20-Mar-01	75.933	40.377	56.285	82.560	43.310	62.493	73.410	40.170	55.994
21-Mar-01	91.277	44.347	62.436	97.760	50.250	68.842	89.830	44.960	62.063
22-Mar-01	94.487	64.345	85.946	99.990	72.930	92.488	92.610	65.280	83.939
23-Mar-01	91.223	52.328	72.918	96.910	58.990	79.915	88.000	55.070	72.508
24-Mar-01	79.173	41.918	61.535	80.580	48.190	66.355	74.380	42.970	60.329
25-Mar-01	90.373	40.138	62.634	95.880	44.310	68.780	86.190	41.100	61.242
26-Mar-01	71.990	49.217	61.980	75.010	54.070	66.363	68.500	49.550	60.965
27-Mar-01	82.217	42.633	62.878	89.430	47.680	69.561	80.110	43.630	62.534
28-Mar-01	85.320	34.960	58.984	91.520	38.190	66.064	84.410	34.680	59.286
29-Mar-01	92.280	35.310	58.700	98.370	36.260	66.170	88.970	34.670	60.577
30-Mar-01	79.447	35.355	53.440	83.030	36.360	57.486	76.370	34.760	52.780
31-Mar-01	70.433	33.898	49.762	74.030	35.180	53.170	67.180	33.990	49.021

Wind Direction - Daily Maximum, Minimum and Averages

Feedlot B

Date	Feedlot B External			Shaded Pen (B5)			Unshaded Pen (B6)		
	Max (°C)	Min (°C)	Ave (°C)	Max (°C)	Min (°C)	Ave (°C)	Max (°C)	Min (°C)	Ave (°C)
1-Jan-01									
2-Jan-01									
3-Jan-01									
4-Jan-01									
5-Jan-01									
6-Jan-01									
7-Jan-01									
8-Jan-01									
9-Jan-01	99.978	53.870	71.943				215.863	176.907	196.314
10-Jan-01	122.879	36.483	67.552				244.255	157.787	189.072
11-Jan-01	336.822	36.620	199.086				210.118	21.923	137.611
12-Jan-01	338.303	30.900	252.511				336.127	46.640	169.567
13-Jan-01	250.562	162.847	202.473				347.237	221.042	299.953
14-Jan-01	325.383	12.126	123.536				234.015	79.883	169.946
15-Jan-01	331.688	13.093	232.508				338.937	51.922	207.919
16-Jan-01	296.858	42.833	188.498				345.768	78.820	237.485
17-Jan-01	236.409	166.272	203.189				349.107	64.988	291.339
18-Jan-01	198.164	43.588	108.206	22.183	14.938	17.694	331.042	161.018	233.269
19-Jan-01	82.136	43.770	65.590	181.660	14.072	69.556	189.557	59.392	122.719
20-Jan-01	333.005	30.407	151.983	344.680	16.530	127.694	346.428	26.837	151.070
21-Jan-01	306.027	41.979	130.443	316.298	50.267	154.383	304.015	44.250	130.310
22-Jan-01	345.183	13.215	217.756	328.490	14.662	174.552	345.127	29.947	208.730
23-Jan-01	327.108	22.045	225.910	338.088	26.242	203.727	329.297	25.133	199.520
24-Jan-01	336.008	45.779	196.227	332.857	25.025	199.250	315.895	35.532	187.004
25-Jan-01	334.056	22.055	195.499	322.693	35.187	193.384	307.883	14.072	179.377
26-Jan-01	287.530	52.521	162.909	294.278	63.458	166.982	278.702	35.940	143.869
27-Jan-01	234.250	163.097	204.771	261.410	181.978	220.047	231.825	117.663	198.094
28-Jan-01	233.903	183.318	207.286	246.068	132.315	213.139	230.135	126.232	195.314
29-Jan-01	252.696	58.253	166.178	248.817	74.732	187.945	232.422	49.732	159.994
30-Jan-01	206.479	156.908	186.383	244.142	166.805	208.815	204.673	110.263	183.295
31-Jan-01	160.943	31.198	56.923	183.145	49.195	72.592	164.853	22.273	47.336
1-Feb-01	80.583	60.110	71.108	100.148	73.397	83.413	75.495	42.700	54.739
2-Feb-01	72.830	40.511	57.248	83.412	55.862	72.335	53.013	32.860	44.013
3-Feb-01	264.622	16.905	107.168	133.480	12.353	73.738	349.698	15.667	106.739
4-Feb-01	344.621	71.058	265.157	351.275	3.733	183.807	346.078	53.180	244.563
5-Feb-01	344.230	59.128	128.864	310.502	41.650	130.229	345.737	41.100	123.282
6-Feb-01	82.923	39.587	60.011	98.247	57.445	75.208	70.140	31.573	45.728
7-Feb-01	76.979	21.147	54.102	103.072	37.585	69.542	78.195	21.882	48.542
8-Feb-01	346.896	16.129	183.532	331.442	7.795	126.017	350.435	7.877	157.880
9-Feb-01	354.457	40.118	246.596	352.672	8.940	119.119	354.002	32.263	215.907
10-Feb-01	311.472	128.748	221.464	330.955	44.027	217.404	253.763	20.145	195.340
11-Feb-01	319.080	64.917	202.638	306.252	52.002	186.507	296.295	27.910	163.435
12-Feb-01	342.750	10.833	178.227	340.830	24.857	158.638	334.080	17.713	160.767
13-Feb-01	316.462	85.415	180.994	233.537	57.936	179.018	260.410	66.315	171.061
14-Feb-01	343.148	158.788	215.258	285.118	64.102	205.531	246.497	132.835	192.970
15-Feb-01	198.212	171.978	186.417	214.058	189.072	201.558	203.200	168.468	184.560

Wind Direction - Daily Maximum, Minimum and Averages Feedlot B (cont.)

Date	Feedlot B External			Shaded Pen (B5)			Unshaded Pen (B6)		
	Max (°C)	Min (°C)	Ave (°C)	Max (°C)	Min (°C)	Ave (°C)	Max (°C)	Min (°C)	Ave (°C)
16-Feb-01	176.719	67.172	105.510	187.747	82.668	118.507	166.522	54.175	93.115
17-Feb-01	86.912	41.653	65.695	105.002	56.172	83.641	83.752	25.360	56.958
18-Feb-01	95.352	32.802	61.641	107.940	35.590	78.771	119.242	11.623	55.016
19-Feb-01	129.198	15.068	80.862	170.703	56.398	100.359	138.753	32.890	72.290
20-Feb-01	81.133	38.807	59.896	101.750	54.838	79.692	79.860	27.900	52.990
21-Feb-01	332.545	28.348	149.998	332.388	53.352	149.642	317.850	24.865	135.829
22-Feb-01	349.602	26.838	237.949	320.372	15.307	159.990	351.277	8.908	177.891
23-Feb-01	349.546	53.722	182.876	324.193	9.532	174.550	352.322	36.275	184.028
24-Feb-01	306.971	88.383	202.612	289.545	47.863	204.490	258.532	32.862	180.399
25-Feb-01	329.603	159.364	247.151	321.202	171.703	246.299	324.527	146.622	238.871
26-Feb-01	319.293	40.985	171.696	305.180	34.880	171.818	301.638	38.823	151.348
27-Feb-01	341.897	18.188	137.760	333.463	20.937	121.370	348.618	14.938	124.685
28-Feb-01	329.874	168.607	223.172	334.642	107.573	219.287	332.935	158.373	217.776
1-Mar-01	279.531	36.878	180.191	304.643	51.483	197.767	313.698	31.255	184.635
2-Mar-01	200.399	82.776	144.602	236.878	89.833	176.807	195.578	53.800	148.250
3-Mar-01	183.734	32.668	86.729	194.750	44.878	89.376	169.202	23.600	71.108
4-Mar-01	137.298	31.583	79.788	151.912	55.117	92.512	140.857	29.560	69.502
5-Mar-01	120.862	42.115	64.876	127.077	57.618	77.953	109.288	28.588	51.742
6-Mar-01	114.408	54.594	78.695	113.053	70.930	88.783	103.917	38.957	62.141
7-Mar-01	146.082	61.535	93.500	157.935	72.617	104.381	141.365	42.878	79.603
8-Mar-01	115.313	60.523	78.889	127.775	71.758	90.901	108.040	45.668	64.009
9-Mar-01	84.393	55.971	72.220	92.473	70.747	84.610	64.132	42.995	55.638
10-Mar-01	295.881	47.050	127.874	249.442	41.105	126.438	267.505	33.210	115.051
11-Mar-01	341.908	38.633	160.862	334.005	64.000	151.666	334.778	35.592	151.804
12-Mar-01	346.170	51.372	194.909	249.292	67.383	199.487	343.657	37.828	193.817
13-Mar-01	219.843	170.007	192.508	237.753	179.932	208.023	226.190	162.985	192.099
14-Mar-01	284.193	68.534	163.757	273.482	47.943	200.345	261.973	60.250	174.464
15-Mar-01	317.817	36.899	137.448	328.558	14.412	99.854	316.085	16.497	141.159
16-Mar-01	350.941	20.590	141.826	354.762	16.383	108.551	348.897	11.467	138.848
17-Mar-01	327.829	225.998	243.903	339.155	230.655	251.605	330.388	223.663	244.431
18-Mar-01	227.365	182.393	207.893	238.670	197.910	218.809	227.230	179.155	207.285
19-Mar-01	313.958	138.673	232.790	323.725	97.798	246.462	318.507	155.800	236.533
20-Mar-01	343.832	36.273	258.449	340.892	34.858	215.375	341.760	13.563	203.949
21-Mar-01	338.709	92.721	264.568	335.093	10.553	219.729	324.145	10.122	240.826
22-Mar-01	302.646	73.863	222.406	315.433	91.262	230.363	308.853	61.550	219.681
23-Mar-01	330.063	57.555	242.768	314.848	60.105	242.438	335.445	41.727	233.295
24-Mar-01	345.467	30.583	163.873	323.340	46.520	135.802	345.747	20.173	160.930
25-Mar-01	332.259	181.688	247.437	333.463	131.412	241.813	307.232	120.935	227.463
26-Mar-01	317.032	225.735	272.641	334.445	42.380	255.514	324.098	17.505	253.999
27-Mar-01	314.315	200.631	235.389	283.908	51.318	221.672	254.792	20.833	212.078
28-Mar-01	209.596	150.038	184.436	231.442	166.977	199.118	193.930	153.730	180.059
29-Mar-01	296.749	65.043	203.382	311.548	41.645	199.582	282.423	39.463	174.247
30-Mar-01	204.573	35.683	89.988	249.390	24.122	100.857	160.572	24.880	71.425
31-Mar-01	291.274	46.514	142.175	246.205	11.630	124.263	351.432	52.618	137.158

2 metre Wind Speed - Daily Maximum, Minimum and Averages Feedlot B

Date	Feedlot B External			Shaded Pen (B5)			Unshaded Pen (B6)		
	Max (°C)	Min (°C)	Ave (°C)	Max (°C)	Min (°C)	Ave (°C)	Max (°C)	Min (°C)	Ave (°C)
1-Jan-01									
2-Jan-01									
3-Jan-01									
4-Jan-01									
5-Jan-01									
6-Jan-01									
7-Jan-01									
8-Jan-01									
9-Jan-01	17.560	2.030	9.174	16.065	6.203	9.933	17.927	5.052	9.225
10-Jan-01	23.990	0.000	8.933	17.610	2.047	10.185	21.292	1.517	11.633
11-Jan-01	13.050	0.000	3.443	11.757	1.175	6.595	11.333	1.577	6.613
12-Jan-01	25.550	0.000	12.769	17.458	2.130	9.560	17.693	3.862	9.790
13-Jan-01	20.690	0.000	7.083	15.525	0.478	5.514	17.220	0.658	5.896
14-Jan-01	20.820	0.000	7.392	20.080	3.857	8.892	18.000	2.815	9.097
15-Jan-01	40.000	0.000	19.035	20.968	3.305	12.316	20.932	3.507	12.406
16-Jan-01	17.500	0.000	8.084	11.395	2.212	6.420	12.663	1.992	6.580
17-Jan-01	24.850	2.260	11.915	20.320	1.427	8.999	21.378	2.020	9.663
18-Jan-01	18.643	0.000	9.407	18.372	1.680	8.254	17.153	1.692	7.641
19-Jan-01	18.958	4.694	12.225	21.365	6.270	12.676	20.905	4.998	11.907
20-Jan-01	17.035	0.548	7.936	16.103	0.403	7.941	17.865	0.393	7.947
21-Jan-01	6.478	0.520	2.970	8.612	0.168	3.845	9.403	0.260	4.048
22-Jan-01	18.628	2.228	9.329	15.317	3.300	8.544	17.068	3.268	8.993
23-Jan-01	19.536	1.823	8.441	18.207	2.130	9.632	19.158	2.370	9.825
24-Jan-01	14.597	1.213	7.350	11.955	1.645	7.596	11.582	2.358	7.615
25-Jan-01	14.636	1.208	6.071	11.590	1.972	6.591	11.622	2.258	6.695
26-Jan-01	16.322	1.211	7.846	13.400	1.658	8.198	13.650	2.760	8.423
27-Jan-01	16.343	0.352	8.145	14.730	1.068	6.882	13.643	1.533	6.786
28-Jan-01	12.408	1.086	7.723	11.210	0.000	5.673	14.550	0.902	6.413
29-Jan-01	12.990	0.241	5.304	9.718	0.472	5.074	10.498	0.745	5.283
30-Jan-01	16.380	1.543	8.940	11.600	0.550	6.255	15.450	0.633	7.199
31-Jan-01	15.942	3.290	10.815	14.357	4.107	9.832	13.583	4.118	10.180
1-Feb-01	21.234	7.302	15.214	20.477	9.730	15.299	19.737	8.930	14.135
2-Feb-01	21.182	5.254	14.617	23.752	8.592	13.941	18.272	7.002	13.442
3-Feb-01	18.400	2.131	10.297	13.647	2.603	9.185	16.335	3.370	9.953
4-Feb-01	19.727	1.062	7.519	13.047	2.992	6.616	15.977	1.882	7.005
5-Feb-01	14.414	0.726	6.525	16.190	1.346	7.037	15.328	1.802	6.732
6-Feb-01	21.693	7.602	16.308	19.655	8.170	14.767	20.700	8.190	15.352
7-Feb-01	14.606	1.056	8.400	14.612	2.795	8.621	12.922	3.000	8.465
8-Feb-01	12.926	1.420	6.373	12.103	1.703	6.487	14.026	0.000	6.262
9-Feb-01	17.958	1.722	10.304	12.288	1.503	8.111	12.527	1.263	7.524
10-Feb-01	13.325	1.251	7.284	11.333	1.493	5.966	12.347	1.212	6.296
11-Feb-01	7.228	0.708	3.281	6.417	0.000	3.226	6.863	0.000	3.026
12-Feb-01	14.461	0.905	6.675	13.735	0.650	6.728	16.007	0.123	6.876
13-Feb-01	25.876	0.889	9.080	14.110	1.505	7.038	16.638	1.115	7.004
14-Feb-01	17.921	0.536	4.425	13.732	0.737	4.104	14.257	0.000	3.492
15-Feb-01	17.642	3.758	12.130	13.060	2.802	8.330	13.347	3.630	8.833

2 metre Wind Speed - Daily Maximum, Minimum and Averages Feedlot B (cont.)

Date	Feedlot B External			Shaded Pen (B5)			Unshaded Pen (B6)		
	Max (°C)	Min (°C)	Ave (°C)	Max (°C)	Min (°C)	Ave (°C)	Max (°C)	Min (°C)	Ave (°C)
16-Feb-01	15.250	2.729	9.236	16.498	4.112	8.088	16.642	2.943	7.920
17-Feb-01	14.640	3.364	8.465	13.138	4.890	9.007	14.515	3.213	8.390
18-Feb-01	14.344	2.065	7.115	13.483	2.565	7.421	13.450	2.223	7.269
19-Feb-01	12.622	0.438	7.196	12.895	1.663	6.918	13.525	1.320	7.394
20-Feb-01	13.189	3.810	9.166	13.132	4.232	9.076	13.617	4.253	8.597
21-Feb-01	18.758	1.164	8.859	15.908	1.863	7.844	17.367	1.148	8.095
22-Feb-01	7.003	0.578	4.626	7.635	0.945	4.816	8.220	0.310	5.128
23-Feb-01	13.652	3.703	8.415	13.297	2.492	7.706	12.132	3.115	7.687
24-Feb-01	12.677	1.339	6.362	12.223	0.603	4.818	11.162	0.335	5.111
25-Feb-01	10.589	0.738	4.573	10.148	0.135	4.311	9.778	0.000	4.115
26-Feb-01	4.959	1.173	2.925	5.368	0.453	2.512	5.690	0.000	2.653
27-Feb-01	17.076	2.500	8.804	15.568	2.637	8.398	14.993	2.128	8.393
28-Feb-01	14.137	1.387	8.092	13.115	1.205	6.077	12.417	0.520	6.424
1-Mar-01	10.824	2.387	6.135	10.615	1.277	4.974	10.048	1.392	5.090
2-Mar-01	12.121	1.961	6.677	9.977	0.792	4.790	10.328	0.758	5.180
3-Mar-01	14.996	2.767	7.982	16.345	2.727	7.740	16.107	1.777	7.549
4-Mar-01	14.312	3.458	9.304	11.868	2.250	8.507	14.458	1.828	8.814
5-Mar-01	21.119	9.917	14.729	18.447	6.515	12.723	18.533	8.783	13.231
6-Mar-01	16.781	5.442	10.386	15.968	4.458	10.276	15.847	4.002	9.245
7-Mar-01	14.548	4.108	9.041	14.638	1.627	8.767	13.317	1.312	8.217
8-Mar-01	17.749	3.248	11.506	14.820	4.253	10.788	17.545	3.153	9.811
9-Mar-01	21.296	10.597	14.587	22.117	9.195	13.418	20.463	7.647	12.975
10-Mar-01	20.273	3.648	9.784	17.758	1.992	8.443	16.172	1.482	8.218
11-Mar-01	11.866	1.366	6.592	11.367	1.208	6.552	10.307	1.393	6.716
12-Mar-01	24.380	5.024	13.111	19.853	4.433	10.475	20.080	4.695	11.172
13-Mar-01	11.347	3.927	7.692	9.580	1.498	4.755	9.948	1.265	5.285
14-Mar-01	8.671	1.201	4.241	5.863	0.215	2.720	6.125	0.000	2.592
15-Mar-01	16.799	4.290	9.831	16.920	5.423	9.229	18.025	4.813	9.671
16-Mar-01	25.432	3.436	13.366	18.730	4.187	11.385	23.438	4.465	12.234
17-Mar-01	28.747	4.733	14.527	21.302	3.470	12.258	20.418	2.617	11.635
18-Mar-01	19.217	5.541	12.966	16.102	3.520	9.627	15.625	3.448	9.891
19-Mar-01	7.050	1.031	2.840	5.405	1.563	2.898	5.400	0.895	2.861
20-Mar-01	11.912	1.037	5.263	12.125	0.418	5.537	13.405	0.000	5.397
21-Mar-01	19.662	1.394	9.625	18.540	1.948	9.747	17.895	1.300	9.663
22-Mar-01	13.326	3.276	9.373	14.593	3.690	9.094	13.037	3.600	8.653
23-Mar-01	11.841	2.102	6.057	10.857	2.223	6.566	10.787	1.470	6.429
24-Mar-01	22.202	2.792	8.978	15.370	2.753	8.696	17.282	0.503	8.952
25-Mar-01	13.405	1.286	5.691	12.523	0.663	4.566	12.202	0.592	5.117
26-Mar-01	15.949	1.728	6.709	13.957	1.128	6.386	13.953	0.645	5.944
27-Mar-01	17.900	1.429	8.413	16.187	0.212	6.618	17.982	0.000	6.875
28-Mar-01	18.180	3.618	9.604	11.760	0.820	6.009	12.458	1.755	6.901
29-Mar-01	10.543	0.000	2.740	7.087	0.000	3.166	6.688	0.000	2.586
30-Mar-01	9.660	1.934	5.863	12.103	0.000	7.471	13.708	1.692	7.082
31-Mar-01	9.180	0.660	4.819	12.088	0.517	6.485	12.385	0.000	6.145

10 metre Wind Speed - Daily Maximum, Minimum and Averages Feedlot B

Date	Feedlot B External			Unshaded Pen (B6)		
	Max (°C)	Min (°C)	Ave (°C)	Max (°C)	Min (°C)	Ave (°C)
1-Jan-01						
2-Jan-01						
3-Jan-01						
4-Jan-01						
5-Jan-01						
6-Jan-01						
7-Jan-01						
8-Jan-01						
9-Jan-01	27.390	7.120	15.332	21.092	6.752	11.795
10-Jan-01	28.850	5.170	15.528	26.760	1.097	14.795
11-Jan-01	18.130	2.710	8.708	14.632	0.000	7.998
12-Jan-01	33.460	6.470	19.199	25.125	5.797	14.607
13-Jan-01	27.220	3.520	12.133	21.547	0.000	7.184
14-Jan-01	26.050	1.600	13.251	25.592	1.908	11.659
15-Jan-01	46.510	3.520	26.046	33.525	4.057	18.589
16-Jan-01	30.440	3.790	13.648	17.570	0.000	8.529
17-Jan-01	34.610	6.500	18.284	30.328	0.000	13.176
18-Jan-01	26.197	1.820	14.820	24.772	0.000	10.538
19-Jan-01	31.829	11.264	19.767	29.663	15.315	21.313
20-Jan-01	24.138	1.089	12.175			
21-Jan-01	14.345	2.491	6.808			
22-Jan-01	24.715	6.138	14.662			
23-Jan-01	27.686	5.964	14.908			
24-Jan-01	19.238	4.932	12.128			
25-Jan-01	19.043	3.778	10.171			
26-Jan-01	22.308	3.098	12.383			
27-Jan-01	21.776	2.701	12.009			
28-Jan-01	16.396	4.728	11.854			
29-Jan-01	17.949	3.489	9.273			
30-Jan-01	22.232	4.027	13.500			
31-Jan-01	22.203	6.273	16.529			
1-Feb-01	32.499	16.085	25.192			
2-Feb-01	28.265	11.263	22.207			
3-Feb-01	26.686	5.779	16.002			
4-Feb-01	24.500	3.862	11.429			
5-Feb-01	22.575	3.089	10.973			
6-Feb-01	33.223	14.289	24.876			
7-Feb-01	21.532	4.088	13.319	18.724	3.100	11.284
8-Feb-01	16.718	3.963	10.001	25.080	0.000	10.420
9-Feb-01	23.102	4.904	14.439	20.473	1.020	12.056
10-Feb-01	17.105	3.501	10.868	17.323	0.290	8.865
11-Feb-01	10.038	1.830	5.474	8.968	0.000	3.098
12-Feb-01	19.351	2.603	10.592	20.717	0.000	9.231
13-Feb-01	31.330	3.714	12.538	27.233	0.835	10.075
14-Feb-01	23.949	1.973	6.718	18.530	0.000	4.137
15-Feb-01	22.274	7.725	16.164	21.885	3.660	13.291

10 metre Wind Speed - Daily Maximum, Minimum and Averages Feedlot B (cont.)

Date	Feedlot B External			Unshaded Pen (B6)		
	Max (°C)	Min (°C)	Ave (°C)	Max (°C)	Min (°C)	Ave (°C)
16-Feb-01	27.445	7.073	14.208	24.508	4.115	11.159
17-Feb-01	19.268	9.198	13.812	17.415	5.868	11.724
18-Feb-01	19.933	6.916	11.927	18.072	4.437	9.797
19-Feb-01	17.143	3.825	11.496	17.157	3.017	9.962
20-Feb-01	19.685	7.958	14.610	17.677	4.090	11.437
21-Feb-01	24.949	5.145	13.376	22.195	1.827	11.202
22-Feb-01	10.090	3.160	7.638	10.610	0.000	6.438
23-Feb-01	18.528	7.532	13.098	19.583	4.205	11.276
24-Feb-01	17.919	2.847	9.139	16.765	0.000	6.260
25-Feb-01	13.848	2.588	7.202	13.327	0.000	4.800
26-Feb-01	7.178	2.423	4.859	6.188	0.000	2.162
27-Feb-01	24.309	4.825	12.992	23.000	3.390	12.609
28-Feb-01	18.532	3.830	12.090	17.663	0.000	9.196
1-Mar-01	15.253	3.438	9.090	15.040	0.000	5.841
2-Mar-01	16.550	3.563	9.653	15.027	0.000	6.689
3-Mar-01	21.024	4.757	12.705	22.953	1.058	10.408
4-Mar-01	19.298	6.369	13.286	15.747	2.057	11.226
5-Mar-01	28.920	13.917	20.076	25.177	11.278	17.782
6-Mar-01	24.019	9.516	15.758	18.430	5.413	13.099
7-Mar-01	21.603	7.703	14.246	18.863	1.845	11.454
8-Mar-01	25.892	7.074	17.775	19.967	5.692	14.072
9-Mar-01	33.328	17.091	23.492	27.562	13.005	18.360
10-Mar-01	27.940	6.640	14.047	24.485	0.000	11.296
11-Mar-01	14.440	3.702	10.039	17.935	0.262	8.975
12-Mar-01	29.712	7.569	17.966	26.988	4.222	16.221
13-Mar-01	17.353	8.602	11.721	13.032	0.518	7.133
14-Mar-01	14.369	4.148	7.651	6.547	0.000	2.140
15-Mar-01	20.768	9.848	14.395	24.607	6.347	13.815
16-Mar-01	33.708	6.543	18.416	34.157	5.632	18.386
17-Mar-01	35.611	9.180	19.760	29.153	4.492	17.705
18-Mar-01	24.160	10.014	17.620	25.263	5.318	15.147
19-Mar-01	11.583	3.032	6.131	6.113	0.000	2.126
20-Mar-01	21.243	3.024	9.911	17.825	0.000	6.988
21-Mar-01	25.132	4.548	15.319	26.195	0.000	12.162
22-Mar-01	19.346	6.409	13.738	16.698	0.000	9.403
23-Mar-01	17.252	4.721	9.315	12.998	0.000	4.513
24-Mar-01	28.361	6.278	13.811	25.275	0.000	12.054
25-Mar-01	18.461	3.734	8.922	17.023	0.000	4.373
26-Mar-01	18.771	5.195	10.891	19.272	0.000	5.887
27-Mar-01	24.583	5.192	13.126	23.390	0.000	8.167
28-Mar-01	23.341	8.432	14.168	18.063	0.000	7.155
29-Mar-01	15.341	1.042	5.381	4.167	0.000	0.683
30-Mar-01	17.270	4.963	10.318	15.945	0.000	7.290
31-Mar-01	14.414	2.342	8.260	16.927	0.000	8.083

Solar Radiation (Incoming) - Daily Maximum, Minimum and Averages Feedlot B

Date	Feedlot B External			Shaded Pen (B5)			Unshaded Pen (B6)		
	Max (°C)	Min (°C)	Ave (°C)	Max (°C)	Min (°C)	Ave (°C)	Max (°C)	Min (°C)	Ave (°C)
1-Jan-01									
2-Jan-01									
3-Jan-01									
4-Jan-01									
5-Jan-01									
6-Jan-01									
7-Jan-01									
8-Jan-01									
9-Jan-01	1110.0	0.0	395.9	401.7	0.0	157.4	1171.8	0.0	435.4
10-Jan-01	1118.8	0.0	379.5	392.1	0.0	130.1	1167.2	0.0	380.0
11-Jan-01	1114.7	0.0	411.4	381.1	0.0	126.6	1151.9	0.0	378.7
12-Jan-01	1054.4	0.0	343.8	334.8	0.0	103.5	1063.5	0.0	324.0
13-Jan-01	1110.8	0.0	371.6	383.0	0.0	117.6	1151.6	0.0	351.8
14-Jan-01	1087.3	0.0	342.6	376.7	0.0	97.6	1048.7	0.0	331.3
15-Jan-01	1230.5	0.0	361.6	330.8	0.0	89.3	1218.1	0.0	356.4
16-Jan-01	1115.5	0.0	367.0	365.5	0.0	115.0	1147.6	0.0	319.0
17-Jan-01	1147.1	0.0	384.9	375.0	0.0	114.4	1205.0	0.0	385.1
18-Jan-01	1185.3	0.0	351.5	365.9	0.0	82.8	1200.3	0.0	301.4
19-Jan-01	1122.6	0.0	377.1	386.7	0.0	124.4	1181.3	0.0	376.4
20-Jan-01	1109.9	0.0	367.2	383.1	0.0	119.7	1167.6	0.0	391.4
21-Jan-01	334.7	0.0	97.6	85.3	0.0	25.4	341.9	0.0	97.5
22-Jan-01	1396.0	0.0	240.6	263.2	0.0	57.0	1359.1	0.0	282.7
23-Jan-01	1087.6	0.0	362.2	352.8	0.0	115.9	1151.9	0.0	377.3
24-Jan-01	951.1	0.0	232.3	268.7	0.0	63.7	911.6	0.0	228.8
25-Jan-01	971.4	0.0	257.4	255.7	0.0	66.7	1133.6	0.0	273.8
26-Jan-01	1038.7	0.0	196.4	387.5	0.0	54.5	1077.7	0.0	197.2
27-Jan-01	1083.8	0.0	362.5	378.7	0.0	127.7	1146.3	0.0	369.2
28-Jan-01	1121.6	0.0	372.0	397.1	0.0	123.3	1185.4	0.0	380.8
29-Jan-01	1144.9	0.0	369.9	406.9	0.0	122.4	1213.5	0.0	380.6
30-Jan-01	1164.0	0.0	328.2	396.1	0.0	103.0	1240.7	0.0	342.9
31-Jan-01	1183.3	0.0	331.1	405.8	0.0	100.5	1251.0	0.0	312.0
1-Feb-01	1113.1	0.0	366.4	401.3	0.0	118.0	1186.0	0.0	377.3
2-Feb-01	1089.3	0.0	349.9	377.2	0.0	108.4	1161.0	0.0	370.1
3-Feb-01	1138.3	0.0	293.8	328.7	0.0	79.2	1233.8	0.0	295.3
4-Feb-01	1085.8	0.0	207.3	338.0	0.0	55.1	1000.5	0.0	204.7
5-Feb-01	586.0	0.0	125.3	183.1	0.0	35.0	656.3	0.0	147.1
6-Feb-01	842.8	0.0	244.4	375.2	0.0	84.0	1092.5	0.0	279.5
7-Feb-01	1068.3	0.0	352.6	380.7	0.0	107.6	1163.0	0.0	408.9
8-Feb-01	1138.1	0.0	328.8	395.2	0.0	111.2	1256.8	0.0	440.7
9-Feb-01	1162.4	0.0	198.2	392.9	0.0	58.6	1220.6	0.0	191.0
10-Feb-01	1271.9	0.0	239.4	433.1	0.0	72.1	1309.5	0.0	253.1
11-Feb-01	1115.3	0.0	362.1	394.7	0.0	115.5	1195.2	0.0	377.3
12-Feb-01	1066.1	0.0	332.8	372.6	0.0	104.7	1144.6	0.0	337.7
13-Feb-01	985.6	0.0	257.6	391.6	0.0	89.1	1420.5	0.0	276.5
14-Feb-01	421.7	0.0	78.7	118.1	0.0	22.5	403.2	0.0	78.3
15-Feb-01	1078.1	0.0	345.5	368.8	0.0	104.7	1176.1	0.0	365.1

Solar Radiation (Incoming) - Daily Maximum, Minimum and Averages Feedlot B (cont.)

Date	Feedlot B External			Shaded Pen (B5)			Unshaded Pen (B6)		
	Max (°C)	Min (°C)	Ave (°C)	Max (°C)	Min (°C)	Ave (°C)	Max (°C)	Min (°C)	Ave (°C)
16-Feb-01	1068.4	0.0	343.0	366.5	0.0	105.0	1162.7	0.0	363.3
17-Feb-01	1064.2	0.0	339.8	362.4	0.0	102.9	1159.5	0.0	359.8
18-Feb-01	1071.5	0.0	347.0	361.2	0.0	104.5	1166.8	0.0	367.5
19-Feb-01	1075.3	0.0	338.8	340.9	0.0	97.7	1231.8	0.0	360.5
20-Feb-01	1060.6	0.0	338.9	355.6	0.0	101.7	1161.1	0.0	375.4
21-Feb-01	1095.2	0.0	328.1	347.2	0.0	82.8	1193.8	0.0	348.4
22-Feb-01	1017.9	0.0	319.5	332.1	0.0	91.2	1108.6	0.0	336.7
23-Feb-01	1116.5	0.0	320.9	379.5	0.0	98.0	1103.3	0.0	297.7
24-Feb-01	1019.1	0.0	303.2	364.6	0.0	91.3	1110.8	0.0	325.2
25-Feb-01	310.0	0.0	101.7	90.2	0.0	27.8	313.2	0.0	100.3
26-Feb-01	716.8	0.0	162.0	273.0	0.0	49.1	651.5	0.0	159.3
27-Feb-01	904.5	0.0	251.2	412.7	0.0	86.7	962.3	0.0	249.8
28-Feb-01	1002.4	0.0	310.6	355.0	0.0	93.1	1105.7	0.0	336.4
1-Mar-01	1004.7	0.0	308.3	351.0	0.0	90.9	1093.9	0.0	333.1
2-Mar-01	1013.3	0.0	312.1	363.9	0.0	93.2	1122.9	0.0	339.7
3-Mar-01	1090.5	0.0	302.8	357.2	0.0	87.9	1203.3	0.0	307.8
4-Mar-01	966.2	0.0	299.5	331.2	0.0	87.0	1083.2	0.0	327.5
5-Mar-01	971.6	0.0	297.6	331.5	0.0	86.7	1081.7	0.0	325.2
6-Mar-01	978.8	0.0	297.1	345.6	0.0	87.2	1089.6	0.0	318.1
7-Mar-01	972.6	0.0	295.3	324.4	0.0	85.8	1085.9	0.0	329.4
8-Mar-01	953.6	0.0	237.9	314.0	0.0	73.6	1160.1	0.0	324.2
9-Mar-01	962.6	0.0	290.1	323.5	0.0	83.3	1068.9	0.0	319.6
10-Mar-01	1061.1	0.0	285.7	334.7	0.0	86.2	1155.9	0.0	335.7
11-Mar-01	1001.4	0.0	265.3	293.7	0.0	65.4	1094.6	0.0	278.4
12-Mar-01	959.7	0.0	269.0	284.3	0.0	68.4	1078.2	0.0	297.7
13-Mar-01	961.5	0.0	288.8	281.7	0.0	71.0	1058.6	0.0	318.9
14-Mar-01	954.3	0.0	285.2	269.9	0.0	72.1	1062.5	0.0	315.3
15-Mar-01	925.8	0.0	215.2	270.6	0.0	50.9	1092.0	0.0	238.9
16-Mar-01	595.4	0.0	129.3	136.0	0.0	29.9	526.6	0.0	110.5
17-Mar-01	985.8	0.0	267.8	303.1	0.0	61.5	1162.5	0.0	198.0
18-Mar-01	1042.4	0.0	204.9	259.2	0.0	50.0	1191.9	0.0	204.1
19-Mar-01	889.0	0.0	246.0	268.6	0.0	72.8	981.5	0.0	282.3
20-Mar-01	1038.0	0.0	228.5	330.8	0.0	66.2	1191.8	0.0	286.8
21-Mar-01	1053.7	0.0	189.2	330.5	0.0	44.5	793.4	0.0	146.8
22-Mar-01	941.1	0.0	132.4	275.6	0.0	41.6	1098.7	0.0	146.3
23-Mar-01	908.5	0.0	207.1	327.3	0.0	81.3	1090.2	0.0	267.4
24-Mar-01	796.8	0.0	149.1	293.7	0.0	46.9	1192.6	0.0	170.8
25-Mar-01	923.6	0.0	196.3	220.7	0.0	51.8	813.8	0.0	205.0
26-Mar-01	905.1	0.0	195.3	369.0	0.0	51.1	1330.7	0.0	183.7
27-Mar-01	876.9	0.0	226.7	285.8	0.0	63.8	1110.7	0.0	283.4
28-Mar-01	892.6	0.0	255.3	258.7	0.0	67.2	980.7	0.0	282.5
29-Mar-01	851.2	0.0	244.8	251.7	0.0	63.8	961.5	0.0	276.9
30-Mar-01	837.8	0.0	236.9	804.0	0.0	184.3	950.8	0.0	270.0
31-Mar-01	832.3	0.0	231.6	805.1	0.0	191.9	944.5	0.0	267.6

Solar Radiation (Outgoing) - Daily Maximum, Minimum and Averages Feedlot B

Date	Feedlot B External			Shaded Pen (B5)			Unshaded Pen (B6)		
	Max (°C)	Min (°C)	Ave (°C)	Max (°C)	Min (°C)	Ave (°C)	Max (°C)	Min (°C)	Ave (°C)
1-Jan-01									
2-Jan-01									
3-Jan-01									
4-Jan-01									
5-Jan-01									
6-Jan-01									
7-Jan-01									
8-Jan-01									
9-Jan-01	265.1	0.0	103.3	88.8	0.0	43.3	194.5	0.0	79.0
10-Jan-01	248.0	0.0	96.2	85.5	0.0	32.3	185.6	0.0	69.3
11-Jan-01	248.9	0.0	104.9	88.7	0.0	31.6	186.8	0.0	67.9
12-Jan-01	243.5	0.0	87.4	64.3	0.0	22.0	177.0	0.0	59.1
13-Jan-01	261.3	0.0	97.3	87.1	0.0	29.7	188.8	0.0	64.7
14-Jan-01	253.3	0.0	91.9	80.0	0.0	25.1	171.4	0.0	60.3
15-Jan-01	292.9	0.0	91.6	79.4	0.0	21.0	203.2	0.0	66.0
16-Jan-01	262.6	0.0	94.2	76.7	0.0	28.7	206.3	0.0	59.7
17-Jan-01	260.9	0.0	100.7	96.2	0.0	29.3	207.4	0.0	70.3
18-Jan-01	278.8	0.0	88.9	74.9	0.0	17.9	191.3	0.0	52.5
19-Jan-01	258.0	0.0	98.4	102.4	0.0	32.4	203.4	0.0	68.5
20-Jan-01	254.7	0.0	95.6	78.6	0.0	28.9	198.2	0.0	70.5
21-Jan-01	88.1	0.0	25.4	24.2	0.0	6.8	62.5	0.0	18.4
22-Jan-01	354.1	0.0	63.5	61.0	0.0	13.9	258.3	0.0	50.6
23-Jan-01	257.2	0.0	95.3	99.0	0.0	30.0	197.6	0.0	69.3
24-Jan-01	251.0	0.0	61.1	58.4	0.0	12.8	158.0	0.0	39.7
25-Jan-01	237.6	0.0	64.4	68.8	0.0	15.3	158.5	0.0	41.6
26-Jan-01	226.1	0.0	45.2	48.2	0.0	8.8	131.6	0.0	24.0
27-Jan-01	226.1	0.0	84.2	81.9	0.0	23.9	122.5	0.0	43.5
28-Jan-01	232.7	0.0	88.4	84.5	0.0	24.2	142.7	0.0	51.7
29-Jan-01	242.9	0.0	88.5	84.1	0.0	25.0	161.5	0.0	56.6
30-Jan-01	270.1	0.0	80.2	88.8	0.0	23.1	180.0	0.0	52.7
31-Jan-01	264.7	0.0	79.8	55.8	0.0	15.1	187.4	0.0	47.8
1-Feb-01	241.0	0.0	89.5	80.9	0.0	22.9	176.8	0.0	61.0
2-Feb-01	236.6	0.0	85.8	82.2	0.0	20.7	173.2	0.0	59.9
3-Feb-01	251.3	0.0	71.9	58.0	0.0	17.3	189.0	0.0	49.0
4-Feb-01	248.7	0.0	50.4	49.5	0.0	10.4	149.9	0.0	32.9
5-Feb-01	124.6	0.0	28.0	23.9	0.0	6.4	67.6	0.0	16.3
6-Feb-01	196.1	0.0	61.0	68.2	0.0	18.6	106.7	0.0	29.6
7-Feb-01	228.9	0.0	85.1	71.3	0.0	19.8	151.2	0.0	55.8
8-Feb-01	264.4	0.0	80.4	74.6	0.0	20.4	168.8	0.0	60.8
9-Feb-01	262.0	0.0	46.7	46.1	0.0	9.2	171.3	0.0	28.0
10-Feb-01	307.6	0.0	59.4	90.6	0.0	16.3	206.5	0.0	40.4
11-Feb-01	242.0	0.0	89.5	86.1	0.0	25.5	176.5	0.0	61.5
12-Feb-01	234.2	0.0	80.1	54.9	0.0	16.8	169.8	0.0	55.3
13-Feb-01	217.2	0.0	60.6	64.0	0.0	17.3	221.1	0.0	43.0
14-Feb-01	99.2	0.0	18.2	22.9	0.3	5.6	69.9	0.0	12.6
15-Feb-01	216.2	0.0	77.6	81.6	0.8	23.9	118.4	0.0	40.3

Solar Radiation (Outgoing) - Daily Maximum, Minimum and Averages Feedlot B (cont.)

Date	Feedlot B External			Shaded Pen (B5)			Unshaded Pen (B6)		
	Max (°C)	Min (°C)	Ave (°C)	Max (°C)	Min (°C)	Ave (°C)	Max (°C)	Min (°C)	Ave (°C)
16-Feb-01	217.9	0.0	78.5	85.2	0.6	22.9	155.0	0.0	52.1
17-Feb-01	217.6	0.0	77.9	90.8	0.5	23.2	164.6	0.0	55.0
18-Feb-01	222.2	0.0	81.1	93.3	0.4	25.3	178.4	0.0	61.5
19-Feb-01	228.1	0.0	80.4	85.4	0.2	24.0	194.5	0.0	61.8
20-Feb-01	224.4	0.0	80.3	94.5	0.5	23.7	189.3	0.0	65.4
21-Feb-01	236.0	0.0	78.1	83.9	0.5	21.3	198.4	0.0	61.2
22-Feb-01	216.8	0.0	76.0	117.4	0.0	21.9	184.6	0.0	60.7
23-Feb-01	243.0	0.0	77.2	113.4	0.0	22.2	185.3	0.0	54.0
24-Feb-01	220.0	0.0	72.3	119.1	0.5	23.7	183.4	0.0	56.2
25-Feb-01	72.4	0.0	25.0	22.9	0.8	7.7	56.0	0.0	18.6
26-Feb-01	176.5	0.0	39.5	53.7	0.3	11.2	115.7	0.0	28.8
27-Feb-01	205.4	0.0	62.4	81.1	0.1	17.9	165.3	0.0	44.6
28-Feb-01	213.5	0.0	74.6	112.1	1.0	23.3	114.5	0.0	37.5
1-Mar-01	215.3	0.0	73.5	113.2	0.8	21.4	139.4	0.0	46.2
2-Mar-01	206.1	0.0	72.4	115.6	1.1	24.0	166.1	0.0	54.3
3-Mar-01	231.9	0.0	70.0	47.1	0.8	16.0	191.2	0.0	50.4
4-Mar-01	203.9	0.0	70.6	107.7	0.9	22.8	172.6	0.0	55.1
5-Mar-01	207.3	0.0	70.5	112.3	1.4	23.9	175.1	0.0	55.6
6-Mar-01	210.6	0.0	70.9	72.1	1.2	19.3	175.5	0.0	49.3
7-Mar-01	209.2	0.0	71.2	114.6	1.1	24.4	177.9	0.0	54.5
8-Mar-01	209.9	0.0	60.0	109.2	1.1	23.0	192.9	0.0	56.6
9-Mar-01	214.5	0.0	71.7	109.2	1.1	23.8	172.6	0.0	56.2
10-Mar-01	237.2	0.0	71.0	82.9	0.8	23.6	194.3	0.0	60.6
11-Mar-01	225.6	0.0	65.3	49.4	0.6	15.1	190.0	0.0	50.1
12-Mar-01	212.8	0.0	65.4	110.5	1.7	22.7	176.1	0.0	50.4
13-Mar-01	208.1	0.0	71.8	117.1	1.9	24.8	178.8	0.0	56.3
14-Mar-01	208.5	0.0	71.1	109.2	1.5	24.0	184.0	0.0	58.1
15-Mar-01	207.8	0.0	53.7	79.2	0.9	16.4	189.7	0.0	44.4
16-Mar-01	133.4	0.0	31.7	36.5	1.3	8.3	102.1	0.0	20.5
17-Mar-01	217.1	0.0	61.1	58.8	1.9	13.2	148.8	0.0	26.5
18-Mar-01	222.9	0.0	47.1	45.1	2.0	11.4	133.8	0.0	24.0
19-Mar-01	190.7	0.0	59.5	74.5	1.6	19.7	125.0	0.0	37.8
20-Mar-01	226.3	0.0	55.4	84.8	1.5	19.1	187.0	0.0	47.6
21-Mar-01	235.0	0.0	44.2	51.4	1.7	11.5	105.2	0.0	19.0
22-Mar-01	206.2	0.0	29.5	42.3	2.4	10.4	143.2	0.0	21.6
23-Mar-01	190.8	0.0	47.5	93.9	2.1	21.1	119.0	0.0	29.5
24-Mar-01	169.7	0.0	32.2	53.3	1.7	10.3	152.0	0.0	22.0
25-Mar-01	179.7	0.0	43.3	72.4	2.1	15.5	127.1	0.0	33.8
26-Mar-01	189.1	0.0	45.0	67.9	2.4	14.1	225.7	0.0	34.0
27-Mar-01	186.4	0.0	53.2	83.4	2.5	21.1	204.4	0.0	52.0
28-Mar-01	179.1	0.0	58.7	89.0	2.7	21.2	171.5	0.0	52.9
29-Mar-01	179.4	0.0	58.9	97.3	2.5	25.2	174.5	0.0	52.7
30-Mar-01	178.3	0.0	57.1	162.1	2.2	45.4	188.3	0.0	57.9
31-Mar-01	178.0	0.0	56.8	163.5	2.2	46.4	189.1	0.0	58.5

